

THE SOUTHERN CABINET.

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For the Southern Cabinet.

THE EMIGRANT—PREPARATION FOR A FIRST CROP.

Mr. Editor,—Those who have been accustomed to cultivate the old fields of Carolina, particularly in the lower part, in many of which there is neither root nor stump to interrupt the progress of the plough, and where manual labour with the hoe is principally relied on for the cultivation of Cotton, will find a vast difference on their removal to this State, where the planting newly opened ground engages their attention, or even when fields are to be planted which have been in cultivation for several years. The first operation in the lower part of Carolina for preparing ground, was listing—that is, drawing the trash and grass from the sides of the old beds into the centre of the alley, and next breaking down the old bed with the hoe, and covering the list; chops were then made on the top of the bed thus formed, into which the seed was deposited in small quantities and covered with a hoe or board. This plan, I believe, is still pursued on some of the islands, and will answer very well where four or five acres of cotton, and three or four of corn, are planted to the hand. But, to pursue the same plan when from seven to ten acres of cotton and from six to nine of corn are cultivated to the hand, I am under the impression you would have to get a search warrant to find the first part of your crop before you had planted the last. The cultivation here is entirely different; the hoe is never used in planting the crop, and is considered only a secondary implement in cultivating it, though essential in some parts of it. The cultivation of new ground and old ground are very different with us, though the plough is relied on entirely in the planting of both. The best preparation of new ground, is to break it up with a bull-tongue plough across the way that you intend to ridge it—then ridge it up with a small turn-over plough made of wrought iron, which is not so liable to break from coming into contact with (and the exertion made by the mules to snap) the roots, as the cast iron, or if they do break, the blacksmith that made them can easily repair them, while the other is a dead loss. This mode of preparation can only be adopted to a limited extent in proportion to the crop intended to be planted, as it would take longer to prepare twenty acres of new ground for cultivation in this way than to plant one hundred acres of old ground—I mean that which has been in cultivation for two or three years. But we will return to our emigrant, who had settled in the woods, and whom we left clearing ground for a first crop, and give some idea of the mode of cultivation he is obliged to pursue before we enter into a description of the other mode of planting pursued

by older settlers. Having burned up his log-heaps and brush-piles, he tracks off his ground with a bull-tongue plough, according to the distance which he wishes to sow his cotton—another plough of the same kind follows in the same furrow, or the first returns on its track, to deepen the furrow, and the more effectually to break the small roots where the cotton seed is to be deposited. The seed is then scattered with a liberal hand in the drill, which is covered by a furrow on each side with the small turn-over before referred to; the hands intended for the hoe then follow with rakes, and clear the broken roots and trash from the drill and place them in small heaps against the standing trees, so as not to interfere with the ploughs and be thrown back on the drill at the next ploughing. The planting sometimes precedes the enclosing of the cotton-field if it is late in the season, or the hoe hands make the fence while the ploughs are tracking off, the rails for which are generally laid round the clearing. When the cotton comes up and is of a sufficient height, the hoe is then used for the first time in what is termed chopping out, that is making intervals on the drill of the width of the hoe, leaving small tufts of cotton three or four inches in length along the row, which if the plants are well grown, are thinned down to four or five. The plough then follows, breaking up that part of the ground which was left at the time of planting. The next business of the hoe hands is to thin out the cotton to what it is to stand at and haul some loose dirt to the drill, clear off roots and trash and cut down weeds and sprouts, so as to give the cotton sun and air. The plough again stirs the ground, and the hoes having little or no grass to contend with, follow to chop down the weeds and sprouts that have been left by the plough. Unless the seasons are very unfavourable, the crop is generally laid by about the middle of July. The usual mode of raising corn in a first crop when open land is scarce, is planting the whole of the land in cotton, and crossing it from ten to fifteen feet with corn. This is generally done by running a furrow across the cotton after it is well up and before it is cropped out; the grain is dropped at the intersection and covered with the foot, the number of stalks left in each hill varying from two to six according to the strength of the land. Should the land be rolling, it is better to make the chops on the cotton-drill with the hoe, as a heavy fall of rain after the corn has been planted, before the field has been ploughed, the water is very apt to take the cross-furrow and wash out the seed corn. It has been found from experience, that more corn and cotton can be made from a certain number of acres cultivated in this way, particularly in such ground, than by planting any number of acres of the same land in cotton and corn separately. This is by no means the most advisable mode of cultivation where there is a sufficiency of open land for both, as in gathering your fodder you are apt to make the cotton trashy, and you are obliged to wait until you have gathered your crop of cotton before you can house your corn. You also lose the entire crop of peas and pumpkins that are cultivated with the corn; and what is of great importance, the use of those fields as pasture for stock of all kinds, but particularly hogs, as but few of the peas are gathered in, and those left with the pumpkins and waste corn, considerably increase the size of the stock-hogs, and by the time the weather is cold enough to slaughter, those intended for bacon are sufficiently fat to kill, and require but a few days in the pen.

Planters cannot be too careful in turning their hogs on an abundant

pea-field when the peas are fully ripe, or when they have been injured by rain, or into a field not well supplied with water, to some or the whole of these causes the death of large stocks of hogs have been attributed, and although there exist a great variety of opinions on this subject, yet many sceptics, as to the injury sustained by hogs from these causes, have been convinced of the reality by having to buy their bacon, when but a few weeks before they expected to have cured an abundance of their own. I have never heard a satisfactory reason assigned why it should be so, yet I have seen so many hogs lost from being turned into pea fields, that I always consider it the safest plan to put my hogs into the field before the peas are perfectly matured, and to take them off when the peas have been rotted by rain, and never to put them into a field where they have not free access to water. I have never heard of the same effect in Carolina, but this may arise from the peas being considered as much a part of the provision crop as the corn, and almost as carefully gathered. I will give you, in a future number, the different modes of cultivation pursued by older settlers.

A SOUTH-CAROLINA ALABAMIAN.

STAGNANT WATERS.

Of all the causes that contribute to render soils poor and worthless, we believe there is none more active than stagnant water, on the surface or immediately below. Such soils are invariably close and tenacious, and commonly quite unproductive.

Where there is a retentive subsoil, the surface generally abounds in clay, is difficult to work, and gives a less reward to labor than almost any other. This is owing to the stagnant water held by it, as none of the valuable plants can flourish in a soil so constituted. Land is liable to injury from this cause, on which water during wet weather rests on the surface for even a short period; for the roots of a plant cannot penetrate a soil freely, in which the density is such that rain water does not freely sink through it to the natural drains in the subsoil, below the ordinary range of the roots of plants. Water is essential to the growth and perfection of plants, but water that does not circulate, or which exists in too great quantities, is fatal to them; and the first thing to be done, is to free soils from this incumbrance, if we would give it productiveness, and render it easy of culture.

It is from these well known effects of stagnant water, when on the surface, or within reach of the roots of plants, that the necessity of draining arises, and which system of operating, when fully carried out, completely changes the character of lands submitted to such a course. Manures applied to soils abounding in stagnant waters, can produce little effects; the salts they contain are diluted, and cannot produce the action, or circulation of atoms, which appears absolutely necessary to productiveness. In clay, or in stagnant water, where substances are not exposed to heat and atmospheric agencies, decomposition is slow. Every farmer knows that manures produce much more effect on loam,

gravel, or drained clay soils, than on those so retentive as to have water on or near the surface. Draining them, and æration, or exposing the soil to atmospherical action, to the influence of the sun and air by deep ploughing, seems to be the only thing that can be relied on to correct this serious evil.

Instances indeed occur in which the wetness of land is produced by springs, which rising from the earth, spread over it; but in far the greatest number of cases, the stagnant water is owing to a retentive subsoil, that prevents the escape of such water as falls upon it. In either case, however, the remedy is the same, and in the language of Morton on Soils, complete and perfect draining is the foundation of all improvement in husbandry, and it should, therefore, be the first step which we take in attempting to improve or ameliorate the soil.

A very large proportion of the lands in this country, are of that class that suffer more or less from the accumulation of water. No person can traverse it in various directions, without being sensible of this fact; and in consequence of such liability to suffer, the land in many districts is cold and poor, as lands not freed from stagnant water always must be. The hard pan lands which cover so large a portion of the country, may be named as belonging to this class, though some of these contain more clay than others, and are therefore more shallow and difficult to work than others, where the subsoil, although still too retentive, lies deeper and is therefore not so injurious as the first kind is well known to be.

Much of this hard pan, when freed from its stagnant water, drained and ploughed, will become very fertile and productive; indeed, there is no case in which a soil cannot by sufficient labor and expense, be made precisely what is desired. The native earths that go to constitute soils, the clay, sand, and lime, in themselves do not make a soil productive, properly mixed and proportioned they constitute a base for the action of the vegetable and animal manures, and the various salts of stimulating agents, that excite the organs of plants to vigorous action, and enable them to make these secretions from the matter furnished them, to be appropriated to the growth of the plants. Man, then, has only to do what nature in some cases has herself done; that is, to proportion the several ingredients that go to make a productive soil, that the desired result shall be attained. Chemical analysis has here come to the aid of the agriculturist, and shown him precisely the proportion of the earths, and the nature of the ingredients that are necessary to make a soil fertile, and the causes that tend to advance or retard such a consummation. Where water is too abundant, it must be removed by draining; where the soil is too compact, it must be loosened by deep or subsoil ploughing; where the proportion of clay is too great, sand must be added until it is efficiently friable; if lime is absent, it must be added; if animal or vegetable matter be wanting it must be supplied: and if the soil is too light and porous, clay will be found a remedy most effectual.

Whatever difference of opinion, therefore, may be entertained of the best methods of freeing land from stagnant water, there can be no reasonable doubt of its propriety or necessity. To the farmer who has lands wet, cold, and difficult to cultivate, we would say, free your soil from all stagnant waters to the depth of eighteen or twenty-four inches; loosen it to that depth, either at once or gradually, and there will be no difficulty, under a judicious course of cultivation, of producing on lands now of little value, all the most important products of agriculture.

For the Southern Cabinet.

SPONTANEOUS FORMATION OF SULPHATE OF LIME—ACTION OF MINERAL SALTS ON VEGETABLES. BY W. L.

Mr. Editor,—The very shortness of my article in the August No. of the Southern Cabinet, and Mr. C's reply to it, compel me, if permitted, to appear once more in behalf of the object urged, with a view to explain some obscurities that have taken place, on account of my having used some expressions with regard to an empyric reader rather, than to an initiated one, although also in the former case the strictest accuracy should be observed.

"C's" original proposition was to mix iron pyrites with carbonate of lime or lime, and expose it to the combined action of humidity and air, asserting that a decomposition, etc. would take place, and sulphate of lime be the result.

I objected to this summary hint—first, the inability of some kinds of the sulphuret of iron* to decompose themselves spontaneously, if also a body exercising a catalytic power should be present, there being only two species of sulphuret of iron possessing this property, viz.: the proto sulphuret, and a combination of this with the deuto, both confined chiefly to the coal formations, &c. and perhaps never occurring in alluvium. Secondly, the use of carbonate of lime. Here I asserted carbonate of lime could exist with proto sulphate of iron in contact without decomposition. This ought to be understood in the manner following:—Theoretically there could be no doubt as to their decomposition; but behold their bearing if you bring them actually in contact.—

1. In an exceedingly fine divided state, as powdered chalk and a solution of copperas. By exclusion of the air they remain unaltered—by admission of it, an action takes place in the following manner:—The proto sulphate attracts oxygen from the air, a quantity $\text{Fe } 2\text{O}_3 + 2 \text{ S O}_3^\dagger$ is formed, which through agency of the water present, forms again the sulphate of the peroxide $\text{Fe } 2\text{O}_3 + 3 \text{ S O}_3$, and another sulphate with less sulphuric acid than the sous per sulphate $\text{Fe S} + \text{Aq}$ —which all again, with developement of carbonic acid from the chalk, are decomposed by it into gypsum and oxyde of iron. This decomposition, however, is very incomplete; having made not less than three trials with a mixture of the above bodies. With an excess of the carbonate of lime, more or less water, constant stirring and application of heat during six hours at least—the resulting mixture contained nevertheless only a very trifling quantity of gypsum, much proto sulphate of iron of course unchanged, carbonate of lime, and some $\text{Fe O}_3 + \text{S O}_3 + \text{Aq}$.

2. In larger pieces, as might be the case, if employed on a more extensive scale, and with a decomposable sulphuret of iron—the body from which the sulphate shall be first generated—instead of the proto sulphate.

By the decomposition of sulphuret of iron certainly heat is generated;

* Iron combines with sulphur in at least five distinct and simple proportions, (not in two, as Mr. C. elsewhere asserts, where he recommends also the carbonate of ammonium, which, to say the least, is in that case a very ambiguous test.)

† Sous per sulphate de fer.

and it is well known that through this means large coal-mines in England and elsewhere commenced to burn. This proves, however, nothing in support of "C." First, in our case the intensity of the heat greatly diminished by the sulphuret's divided state and the interposing pieces of carbonate of lime, which is neither fit to support burning nor burns itself, as coal does in the above case—where shall now so much heat generate from, as is necessary to deprive lime-stone of its carbonic acid? Further admitted—the mixture commenced to burn indeed, and sulphurous acid—sulphur gas and sulphuric acid be evolved, the latter of which *can* be present only in an *exceeding* small quantity, in which respect alone its formation is a well substantiated fact, of no importance whatever just here. Could the heat produced by the burning sulphur and the freed affinities produce lime, to whose formation white heat is necessary? Most probably not! Howsoever, having obtained now *sulphate (proto) of iron*, the formation of gypsum should commence and continue on by duly moistening the materials till the entire transformation of them should put an end to the process. Consider we, however, now the result of my experiments, and the coarser condition of the materials by a trial on a large scale, there remain nevertheless the following points and questions to be responded to, making at least the practicability of the employment of limestone doubtful, and showing sufficiently that "C's" proposition, in this respect, is by no means placed *beyond a doubt*.

- a. After moistening the materials, where is the constancy of elevated temperature which is in consequence of an experiment of mine, necessary to produce only in some measure considerable decomposition, and how could it be obtained?
- b. The sulphate would decompose firstly the exterior of the lime-stone and clothe it in return with a coat of gypsum and per oxide of iron, preventing entirely, or retarding most sensibly further action.
- c. Would the time required for the purpose of stirring, moistening, and the *slowness* of decomposition be of no account?

As Mr. "C's" final proposition takes into consideration those sulphurets which do not decompose spontaneously by suggesting a previous roasting of the ore, and as he perhaps is inclined to admit the superiority of lime before lime-stone, it affords me great pleasure to point out some of the advantages which theory shows, and practice must confirm, by following the course of this process which so essentially differs from "C's" first method, in opposition to which my remarks arose.

Provided, that towards the *close* of the roasting the heat be sufficiently heightened—instead of lime the carbonate of it could be taken; nay, the use of the former would be useless and expensive—[the carbonate losing its acid during the process.]

Moistened, the resulting lime would collapse into a fine powder, and thus offer to the sulphate a great many points of contact, and by further addition of water through its greater solubility and affinity, adduce a speedy and entire decomposition of the sulphate of iron and consequent formation of gypsum.

When I said, soils containing a large quantity of iron proved barren, I meant, of course, soils (to use "C's" expression) containing the per oxide in a great measure.

Whether the quantity contained in the sulphate of lime is deleterious to vegetables or not, remains to be determined by experiment, though I

am well aware of its being present almost in all organic bodies, and consequently less deleterious than other oxides or salts.

There remain yet some points to be discussed, but as they do not belong to the main question, I prefer to leave them untouched.

With the request to insert this in your journal,

I remain with the greatest regard, yours,

Charleston, October 7th, 1840.

W. L.

ON THE PROPERTIES OF LIME.

[FROM ENGLISH AGRICULTURAL PAPERS, RECEIVED AT THE YANKEE FARMER OFFICE.]

So many questions continue to be asked in various publications, to the cause and mode of lime operating beneficially upon land and a universal mistake as to its power of decomposing vegetable matter in the soil, being the basis upon which all arguments have hitherto been founded, as a practical farmer, with some slight knowledge of chemistry, I will state my view of the subject. In the first place, lime in no state decomposes vegetable fibre, as may be proved by any person who will take the trouble of introducing straw and living vegetable fibre into a bottle of quick lime, and also another containing lime and water; it will be found, after a lapse of time, that neither the dead or living substance has been decomposed, and that the dry lime has only acted by its depreciating power, and that in its wet state no destructive decomposition has taken place. In a conversation with Dr. Davy upon the subject some years ago he showed me such an experiment then going on, and a short time ago, told me he had continued it for two years without any decomposition taking place; and further added that a note upon the subject would appear in the forthcoming edition of his brother's works. I have repeated the experiment with the same results. The view I take of the subject is, that to land which does not naturally contain a proportion of calcareous matter, to perfect its vegetative powers, it is necessary occasionally to add lime. Its direct and immediate power of action appears to me to arise from its *Alkaline qualities only—all Alkalies being stimulants to plants*. Now lime is sparingly soluble in water, requiring about seven hundred times its weight of water to dissolve it; and when it is considered how much of the lime must return by exposure to the state of carbonate (by absorbing carbonic acid from the atmosphere, in which state it is insoluble) before such a proportion of water can have fallen, a very small proportion of the quick lime applied can become soluble, and in that state only can it, according to modern opinion, act as the food or stimulant of plants. But this soluble matter may also act chemically upon other salts in the soil, and thus render salts of iron innocuous, and by entering into fresh combinations afford additional stimulants from matter hitherto inert. From the small quantity used in this county (from one hundred and twenty to one hundred and fifty bushels per acre,) it can only act in a most trivial manner upon the mechanical

structure of the soil; but will certainly for a time render it more liable to attract moisture from the atmosphere. For the reasons I have given it appears to me that an equivalent quantity of any fixed alkali (to the small quantity of soluble matter in lime) should supply its place beneficially, which accounts for the action of wood-ashes—soda or decomposed salt, and other alkaline substances. Soot, whose principal saline constituent is a salt of ammonia, (which becomes decomposed by some process of nature when applied to the soil,) having ammonia for its base, is quick in its action, but not so permanent as the fixed alkalies or lime. Nitre, from its fixed base, I apprehend will prove considerable permanent. I have this year sown one cwt. per acre upon seven acres of wheat, and it has acted in the most striking way I ever saw any manure. The most economical and best mode of applying lime, I consider, is to lay it down in small heaps, at such moderate distances as to be easily spread, and immediately to cover the heaps with mould, which is a slight operation, and may be performed by boys: the lime is by this means prevented from being formed into a state of mortar, by rain, and becomes air-slaked in a shorter time than by laying it out in loads in the field. A manifest disadvantage of the latter mode (besides the additional labor it occupies) is in the occurrence of a wet autumn, in which case you road the field so much in carrying it out as materially to injure the expectant crop; and in some instances I have known it impossible to get in the seed in a husbandlike manner. A second objection is the exceedingly disagreeable operation of spreading it, to the laborers, and to a certain extent pain and injury to the horses' eyes. One of your correspondents alludes to a method of laying it out in shells, as it comes from the field. I cannot conceive any advantage this mode can have over laying it out in small heaps, and covering them with soil as described; by no other means can it be so evidently and conveniently spread.

I am, Sir, your obedient servant,

H. F.

December 19th.

ON SWAMPS AND MIXING OF SOILS.

Mr. Editor,—From the experience I have had, and from the information I have otherwise gained, I am convinced beyond a doubt that the swamps on many of our farms, if properly managed, would be the most profitable lands we have; and, that the mixing of soils is a cheap and effectual method of rendering a large portion of the farms in this State highly productive. Of the best method of reclaiming these waste places, I cannot speak with certainty, having tried but one. Several modes have been recommended, and doubtless all are good, varying, of course, according to circumstances. I will here relate an experiment of my own, hoping it may induce others to try similar ones.

I have a lot of mowing land consisting of about three acres, which was reclaimed from a swamp where grew nothing but polypods, hard hack, and the poorest quality of meadow grass. It was a miserable,

sunken hole, and of so unsightly an aspect, lying as it did, near my buildings and garden, and bounded on the highway, that I had wished it a fish-pond a hundred times. Near at hand was a loamy bank, and I resolved on covering the swamp with it. I accordingly opened the old ditches and cut a new one through the lower part of the lot which drained it sufficiently, and then covered the whole from one to three inches deep from the loam bank. Thinking this not quite strong enough to produce timothy and red-top, I covered the whole again about one inch deep with soil from around my buildings, and from under my barn, (as I was then digging a barn cellar,) sowed the seed and dragged it in with a heavy bush. This was done in the autumn of 1834. The next summer, at hay time, little else than weeds had grown upon it high enough to mow, but the seed had taken well, and the ground was beautifully carpeted with young timothy, red-top and clover. It was fed by the cows in the fall, but not closely, and the next summer it yielded, at least, four tons of good hay. In the autumn of 1836, half of it was dressed with the scrapings of the chip-yard, and in the fall of 1837, the other half was well manured with compost from the farm-yards. In the summer of 1838, it produced, at least, six tons of hay, equal in quality to the best.

Before this land was improved, it never produced over a ton in a year, and that poor as it was, we were sometimes obliged to bring out upon poles; now it readily sustains the team fully laden with hay or manure, and presents a view upon which the eye of a good farmer rests with delight.

The expense of this experiment was one hundred dollars; and the land which before was worth nothing, is now, in my own estimation, worth at least one hundred dollars an acre.

I have tried two experiments with swamp mud upon my plain lands, spreading and ploughing it in, in one instance, and using it as a top dressing for grass in the other. In both instances it succeeded beyond my expectation.

There are but few farmers who could not, and who would not, if they deemed it practicable, go about reclaiming their waste lands without delay, for every farmer must know, that by improving his grass lands, he will improve all his lands, and that with plenty of good hay he may make his farm what he pleases. Is it not better economy to improve our waste lands, when it can be done at a saving expense, than to buy more land, which will scarcely pay the interest of the money it costs? Then certainly, if by expending thirty dollars on an acre of sunken swamp, it will pay the interest of one hundred dollars, the acre, it is still better economy. It is high time for the farmer to be looking at his interest. If the government continue to foster other interests, without regard to agriculture, the farmer must stand on the defensive, for his only safety consists in the practice of the most rigid economy in all things. By making his farm what it should be, and by graduating his expenses accordingly, *he* can live, however it may be with those of other professions and callings.

A FARMER.

[*Yankee Farmer.*]

ON THE UTILITY OF DRAINING—WITH SOME

METHODS ADAPTED FOR VARIOUS SOILS. BY JOHN FISH.

THE first and principal improvement of wet land is draining, without which the greatest quantity of manure, of whatever description it may be, will prove ineffectual towards its productiveness.

Soil overcharged with moisture, proceeding from the water being retained by a stiff impervious clay, or from cold springs, which are frequently loaded with minerals and acids, not only proves injurious to vegetation, but also, from the evaporation of their aqueous particles, tend to corrupt the atmosphere. Some plants require a greater, and some a less, proportion of water in their food. Those in general cultivation are of the latter description, and are easily injured by an excess of moisture. Hence water may be regarded as an impediment to vegetation; and therefore it becomes a matter of importance, to consider the most proper methods of conveying it off all soils where it is superabundant.

No regular system of draining can be given, as our plans and operations must be regulated by the circumstances we are placed in; for it is not with the earth, as with the animal body, whose component parts form a regular system, and whose fluids circulate in known channels. The circulating fluids in the earth are conducted by circumstances altogether different, and frequently in channels the most complex and intricate; the variety of cases may be said to be innumerable, no two pieces of land being perfectly alike.

The first consideration should be the nature of the soil and subsoil, whether it is of a retentive nature or not; and also the surface to be operated upon, even or uneven. When those principles have been thoroughly investigated and the cause made clearly apparent, the operator will readily see that no general rule can be applied to all cases, but that the grand and leading feature of this, as well as of most of our operations, is in making them subservient to the end in view. A principal point is, to ascertain the best and most convenient place for the drains discharging their water, and to mark out the lines before the operation commences. In drainings of every description, two considerations should constantly be kept in view; these are, draining effectually, and at the least expense. These should be the objects of all who engage in this and every other improvement, and cannot be obtained when the work is executed without investigating the cause from which the wetness proceeds, as is evidently too often practised; and proofs are not wanting to show that to this may be attributed the failures we so often see. Not unfrequently has land to be drained a second time, from the operator not taking into consideration the nature of the soil, nor yet the cause of the water.

A wet soil may proceed from one or all of the following causes:—an under-soil of close texture, which will prevent the surface-water from soaking through it; springs bursting out of the earth, and wanting a free current; and frequently low ground becomes saturated with water from the high grounds, through veins of sand, gravel, or fissures of rock; also from want of a sufficient descent, or by an impervious stratum of retentive clay.

The soil, the subsoil, and the base impervious. This is of rare occurrence, and rather difficult to remedy; as in this case, rain-water being unable, after the soil is saturated, to penetrate the surface, thus precludes, in a great measure, the art of draining. As our operations in this case will be confined to the surface, where the base is of great depth, the effects of this on vegetation are soon apparent; the soil having been saturated by the rains of winter, and expanded by frost, and its fresh pores probably filled with dissolving snow, and having no other means of discharging its superfluous moisture but the process of evaporation, its efforts are checked, and its power of vegetation retarded.

In the cultivation it is difficult to work, and cropped with uncertainty, from its liability to close upon the roots of the plants, depriving them of the necessary supply of air, and thus materially injuring their growth. This description of soil may be remedied considerably by rounding it in ridges, with open interfurrows, cross drains, and ditches; thus taking off the superfluous rain or surface water, and conveying it to some desirable place.

First, I shall commence with covered drains. Their dimensions will depend upon their depth, the quantity of water they have, or may be wanted, to carry, and the materials they are filled with. When the depth does not exceed 3 ft., 1 ft. 3 in. wide at the top will be sufficient; but, when deeper, the width may be increased to about 3 in. for every foot in depth; the width at the bottom to be also attended to; it should not be much narrower than the top, to allow of building a substantial drain; if this is not attended to, unpleasant results may follow. When the bottom is made (as it frequently is) much narrower than the top, the stones are obliged to be set on their edges, and the covers laid on them in an insecure state; and in many instances they fall down before the drain is finished, to the mortification of the operator, by which springs would be formed in the driest part of the ground.

In making drains, several things might be done as a means of facilitating the operation:—the stones to be laid in readiness for commencing; the excavating and the making to go hand in hand, for fear of accidents, such as the soil falling in; great care taken that the bottom of the drains may fall with a regular descent, in order that the water may run from one end to the other without stagnation.

When the bottom is soft, it should be laid with flag-stones, to prevent the materials from sinking; the side walls should also be made secure, and the covers strong, packed at their ends with broken stones; the space above, in strong adhesive soils, should be filled with stone rubble, within 1 ft. at least of the top surface of the ground, which remaining space should be filled with rough porous soil, thus rendering it a fit receptacle for the dispersion of water from bottom to top, which I consider of much importance, as it tends to drain the ground much more effectually. Before the soil is put in, this stonework should be covered with straw, or, what is better, with turf, with the green side downwards, to prevent the soil from subsiding into the crevices among the stones.

It is necessary to have the mouths of the drains well built, and secured with iron gratings sufficiently close to prevent the ingress of rats and other vermin, as they are found to be destructive, when burrowing in them; they should also be examined, and kept in proper repair, and the outlet kept sufficiently clear, so that the water from the drains may run away freely, otherwise it will remain stagnant in them to the great injury of the soil.

Attention must be paid that they are not carried into the outlet at right angles; their ends should be turned down in the direction the water runs, for a short space before they join it. This should be attended to in all cases of one drain discharging itself into another, as it prevents the water in the outlets from depositing any sediment in their mouths, which would be the case were this not attended to; indeed, it often happens that drains are stopped, and rendered useless, from this precaution being neglected.

Ridge-tiles may be advantageously used for draining, both for removing surface and under water. Spades are made on purpose for digging these drains, just wide enough to let the tiles go easily into them. The tiles should be well burnt, as it is found by experience that hard-burnt tiles will last longer than those that are not; and should be laid on flat tiles, or soles, as they are called, of the same texture, to prevent them from sinking, or otherwise getting out of place.

By proper management, I consider that tiles may be successfully used for draining to any depth, and at far less expense than stone; however, where stone is in abundance, I should recommend it to be used, as being more durable. I have seen tiles used at the depth of 4 ft. filling 2 ft. above them with loose materials, laying another course upon this, and filling up as before. In all cases where they are used, the space above them should be filled, to within a few inches of the surface, with some loose porous substance, otherwise they will not have the desired effect, namely, drying the soil.

Rubble drains are well adapted for removing water confined in porous soils with an impervious bottom, and from an alternate stratum of whatever description; the depth should be proportioned to the nature of the soil and subsoil, which should be brought to within 1 ft. of the top surface, and, in clayey soils, the remainder filled with a porous earth: they are attended with little expense where stone of any sort can be procured.

Wood faggots, &c., are sometimes used for draining; but, from their liability to decay, thus destroying the drains by the process of decomposition, they cannot be recommended as permanent, although they act well for some time.

In some cases ditches are preferable to covered drains, such as dugs or moss with a soft bottom; for, should stones be used, from their liability to sink, the drain would be rendered useless. Their depth and wideness will depend upon the quantity of water they have to carry, and the nature of the soil and situation: the fall should be such that the water may run off without stagnation. In digging them, the earth thrown out should not remain upon the sides, but be removed to the nearest hollows: if this is not attended to, their use will be in a great measure counteracted, as placing it upon the side is a preventive of the surface water entering the drain; its weight will also have a tendency to make the sides give way.

Hollow earth drains are sometimes used with good results, to collect water from the subsoil, or receive rising water at their base. The method of making them is simply this: dig them perpendicularly to the desired depth, taking out the last spit with a spade 6 in. narrower than the other part. A shoulder, as it were, is thus left on each side, on which some good strong sods are laid, with the grass side downwards. When the water lodges in a stratum of loose earth, the operative part of the drain should be lined with turf, to prevent the sides from falling in,

which would otherwise choke up the channel; the joints on each side to be left sufficiently open to permit the water to filter freely.

There is, perhaps, no department of rural improvement on which so much money has been expended to so little advantage as on draining. And why? Because the work is often carried on without at all considering the nature or cause from which the water proceeds. One drain, judiciously conducted, may be as effectual as twenty run at random; and it is the case with many to set to work and fill the ground with drains in all directions, or wherever the least symptoms of moisture appear, while by a single drain, properly directed to the lodgment of the water whose ramifications caused those symptoms, the entire site might have been effectually laid dry.

I have seen instances of this kind, and shall here take the liberty of mentioning one, which occurred at the Earl of Mansfield's, Scone Palace, Perthshire. The soil was of a soft peaty nature, with a subsoil of white tenacious clay, 2 ft. to 3 ft. deep; under this lay a stratum of a sandy nature, which contained the water. The first attempt proved a failure, inasmuch as the drains were not deep enough to reach the source from which the water proceeded. It being desirable to have this ground in a state for cultivation, an examination took place, and the stratum found which contained the water; then drains were made to the depth required, and the outlets deepened accordingly. This answered completely.

Had the boring auger been first used in this case, it would have saved the expense of a second draining. What would we think of the miner, in search of mineral and fossil substances, commencing to sink his pit without the use of the auger, to ascertain whether what he wanted was there or not? We should be inclined to say, he was working in the dark. The borer may be as advantageously used for finding the reservoirs and channels of subterraneous water, which is of the greatest importance to those who engage in the draining of land.

It is necessary to bore in several places in order to obtain a competent knowledge of the various lodgments of the water, and at the different depths. When these have been ascertained, the next thing to be done is to run a main discharging drain in the lowest part of the field of improvement, and to a sufficient depth to draw off the water from its deepest recess. Sometimes this will be sufficient; if not, another must be made to the next deepest water, and in the lowest situation, in the best line for a fall.

As the object here, as well as from springs, is the carrying off under, not surface, water, it will be unnecessary to fill above the drains with stone rubble, or anything of that nature. When water proceeds from springs, the same method as detailed above should be adopted; namely, the line of draining them should be on a level with the lowermost springs, thus keeping the others in a great measure dry. If a sufficient outfall cannot be commanded to carry off the water, a well may be sunk a little below the lowest lodgment of water, and the water may be raised with a mill, or pump; thus obtaining by art what nature had not accomplished. This is never attempted unless in extraordinary cases, as the expense incurred would not warrant its adoption.

The quality and value of lands depend entirely on the quality of the soils of which they are composed. If these are sufficiently absorbent and open to prevent a surcharge at the feeding fibres of plants, yet

sufficiently retentive of moisture to prevent the too rapid escape of rain-water through the plant-feeding system, the land is of superior quality. But if, *vice versa*, the several strata are of so loose a texture as to permit the rain-water to pass through quickly, without being in a sufficient degree arrested by the soil, it is of inferior quality. Therefore, due precaution should be taken before commencing an undertaking on which, in a great measure, the success of every branch of horticulture and agriculture depends; and, therefore, it becomes a matter of the greatest importance that every circumstance should be investigated, for the purpose of discovering the cause from which this or that proceeds. That some land may be over-drained, I admit; but this is of rare occurrence, and a remedy soon presents itself; that is, shutting up the mouths of the drains when necessary, and thus forcing the water back whence it proceeded. This may be continued for any length of time, and may prove beneficial in dry seasons. However, I consider stagnant water, in all cases, to be injurious to vegetation; and plants can neither perspire nor luxuriate when saturated with this element. Where surface soil rests on a subsoil moderately porous, both will hold water by capillary attraction, and what is not so retained will sink into the inferior strata by its own gravity; but, when the subsoil is retentive, it will resist water, and ultimately by accumulating it in the surface soil, cause diseases which are detrimental, and would soon prove fatal, to the vegetable system.

Exotic Nursery, King's Road, April 4, 1840.

[The Gardener's Magazine.]

HOG MANURE.

For aiding the growth of many plants, and particularly corn, we have never found any manure the application of which produced such effects as from the hog pen.—Last year we had a field of corn dunged in the hill, part of it with alternate loads of hog-pen manure, and common good stable manure. Each load planted about five or six rows. From the commencement of their growth, till the ripening of the corn, the rows manured from the pig-pen had the advantage, and at harvesting they yielded a much larger quantity of corn than the others, though all was excellent. A neighbour, the last spring, in planting his corn, used good stable manure, except for some few rows, for which the stable manure falling short, he substituted a load or two from his hog-pen. The difference in the size of the corn from the first, was such as to arrest the attention of every passer by, and though the year has been unfavorable for corn, it has given a handsome product compared with the other. Other instances have this year fallen under our notice, the results of which were precisely similar, and have established, in our opinion at least, the superiority of this manure over every other. Its greatest effect, however, so far as our experience or observation has extended, is produced on soils of a loamy or sandy texture, and on vegetables that require active manures to bring them forward rapidly.

It appears to us, then, an object of considerable consequence to the farmer, that he should avail himself of this resource for fertilizing his soil, as far as possible, and that methods should be adopted by him to preserve and increase the amount at his command as far as may be, and not allow the avails of his pig-pen to be lost to the farm, as is not unfrequently done. Where pigs are allowed a small yard to run in from the pen, they may be made to produce a large quantity of good manure, by frequent additions to the material in the yard, of straw, weeds, turf, muck, or even good common earth, to absorb the fluid part of the manure, and preserve its salts from escaping. In this frequently renewed mass the pigs will love to work; and if any disinclination is manifested in them to stir this compost heap, a few handfuls of corn scattered over the surface, will speedily overcome it, and set them busily at work. If the pigs cannot leave the pens, the sty should be frequently cleaned, and care should be taken that the dung so thrown out is not lost to the premises. A load of muck, or vegetable mould, occasionally mixed with, or thrown upon the heap, will, when the time for using it in the spring of the year arrives, be found, from this absorption of salts, and combination with the manure, an application of much greater value than common stable manures, for most of the crops cultivated by the farmer. Fresh manure of any kind should not be applied directly to crops of grain; as they are apt to produce too much straw and endanger the formation of a good berry. Manure should be first applied to roots, or to corn, and grain fallow; by which the danger of a too rapid growth is avoided.

[*Genesee Farmer.*]

TRIMMING TREES.

SOME Farmers, I observe, are already beginning to trim their apple and pear trees. It is a saving of *time* to do it in the winter, but a *loss* of the *fruit*, presently, and finally a loss of the trees.

The following extract from the "Farmer's Register," is in point; and I believe all similar experiments will produce, sooner or later, similar results.

"I had a small apple tree which had been engrafted with a choice fruit, and had been growing perhaps seven or eight years. There was one limb on it which I did not like, because it was growing in a wrong direction. I took it off in December, because I believed the sap to be then in the roots, and therefore at this season there would be none of it wasted or taken away with the limb, and of course the branches left would receive a greater portion of nourishment in the spring. Some-time afterward I examined the tree and found that the part or stump of the limb which remained within the surface of the body, was affected with the dry rot in its purest type. I removed this with my knife, and found that the disease had made its attack on the body of the tree itself. The tree, after the limb was taken off, became sickly, and its fruit after it began to bear was imperfect."

Dry rot may oftentimes be prevented, however, if the wounds are carefully covered with a composition made of rosin, tallow, beeswax and ochre, melted and well mixed together—and where it is necessary, for want of time in the spring, to resort to winter trimming, this method of prevention should be resorted to. It is cheap, simple, and adheres to the wound, excluding moisture, until it is healed over.

[*Patriot and Democrat.*]

SEASONABLE HINTS.

ALTHOUGH winter has set in, it is not yet too late to provide shelter for domestic animals, where it has been hitherto omitted. Sheep are usually more exposed than cattle; but the fact that so many die in wintering, shows that protection for them is of the first importance. The improved quality of the wool and value of the animal, would more than compensate for all the labour required. There would also be a saving of food, as all domestic animals eat less when sheltered from the cold. A very necessary precaution is to separate the strong from the weak, the latter to receive additional care; and where the flock is large, it should be thus divided into several flocks.

Very cheap temporary shelters for any kind of farm stock where straw is abundant, may be easily made as follows:—Build a pen of large poles or rails, to the desired height, so that instead of being a single wall of rails on each side, there may be *two* walls, inclosing a space about a foot wide; fill this space with straw, treading it down compactly. Then lay rails across the top, about one foot apart, and cover these thickly with straw for a roof, and the building is finished. It thus forms a warm and effectual shelter. We have seen a good stable for two horses made in this way by one hand in a few hours, while the cost of material was almost nothing. Old or wet straw is preferable to good, as cattle would not be induced to eat it, though, if well packed, they cannot in any case.

Hay is often wasted to a large amount by the want of racks for feeding. Where thrown upon the ground, half of it is frequently trodden under foot, in wet or muddy weather, and destroyed. Time would therefore be well employed, during the leisure of winter, in constructing suitable racks.

Hay is also wasted by feeding in too large quantities at a time, by which the animal's breath becomes condensed on it in large quantities, and it is rendered unpalatable, and is rejected.

Hay, straw, corn-stalks, and all other kinds of fodder, supply animals with more nutriment when cut or chopped fine. Stage-proprietors, who feed a great number of horses, have found a saving of one-third by chopping hay before it is fed to them. Mixing cut straw, hay, and meal, is an economical practice; the quantity of each ingredient may be varied according to circumstances. Horses kept at work, should have a greater proportion of hay and meal, than those standing idle.

As it is not practicable, however, for every farmer to cut his straw, a saving of hay may be made by feeding it uncut, and proper contrivances for this purpose become desirable. One easily made and attended with little trouble, is constructed by placing four strong rails so as to form a square or parallelogram, supported at a height of about four feet upon four strong corner posts, to which the rails are securely pinned. Stakes, resting with one end on the ground, and the other upon these rails, inclining outwards, complete the construction. The straw is stacked in this pen or large rack, from which the cattle eat it; its weight causing it to fall and rest upon the stakes as it is consumed.

When cattle do not freely eat straw, they may be induced to do so by sprinkling it with brine, as it is fed to them.

Watering cattle in winter is too frequently neglected. They are found to drink several times a day, when water is before them, which they would not do, if it were not requisite for their health and comfort. All animals may be more cheaply kept, and in better condition, if their comfort is strictly attended to and all their wants supplied.

O A T S .

THE Oat is of the genus *Avena*. The following species are those chiefly cultivated for their seeds:—

1. *Avena strigosa*—Bristle-pointed Oat.
2. *Avena brevis*—Short Oat.
3. *Avena sativa*—Common Oat.
4. *Avena orientalis*—Tartarian Oat.
5. *Avena nuda*—Naked Oat.

The first of these species is distinguished by the two lower florets of the spikelet having each three awns, the dorsal one very long and twisted, the others short and straight. This is a native species, of inferior properties, but sometimes cultivated, as in the remoter Highlands of Scotland.

Avena brevis, Short oat, is, like the last, of inferior quality. The seed are numerous, but small. It is cultivated in the more mountainous and central parts of France, and elsewhere.

Avena sativa, Common oat, is the most important of the cultivated species. Each spikelet contains two, and sometimes three, perfect seeds. The florets are sometimes awned, and sometimes destitute of awns.

Avena orientalis, Tartarian oat, is cultivated in England, and largely in some other parts of Europe. Its panicle is contracted and nods to a side, which distinguishes it from the last-mentioned species. The color of its corolla is generally dark, but the plant improves by culture in a good soil, losing its awns, and that darkness of color which appears to distinguish the oat on its less improved state.

Avena nuda, Naked oat. In the species that have been mentioned, the corolla adheres closely to the seed and forms its covering. In this

species the corolla is detached from the seed, as in the case of wheat and naked barley. It is from this property that this oat has obtained the name of pilcorn or peelcorn. It has been cultivated for an unknown period in Europe, is mentioned by our earlier writers, and was once in general cultivation in Scotland, and other parts of the island. It is said to be productive, and the meal to be fine.

The oat is a natural inhabitant of colder latitudes. It degenerates in the warmer parts of the temperate zone, and in lower latitudes disappears from cultivation. It is, of all the cereal grasses, that which is the most easily cultivated, growing best indeed, as all such plants will do, on the better soils, but suited to every kind from peat to the lighter soils and clay.

Of the species that have been mentioned, greatly the most important is the common oat, *Avena sativa*. Of this species there are innumerable sorts, produced by the effects of climate, soil, and cultivation. These may be conveniently divided into three classes—the black, the dun or grey, and the white.

Those in which the corolla is very dark, are in the first class. The oats of this habit are awned, and the seeds are small. They are hardy and ripen early, and it is this property which suits them for cultivation in cold and elevated districts. They are an inferior class of oats in their ordinary state, and should rarely be used where varieties more improved by climate and cultivation can be raised.

The next class of oats, the dun or grey, may be said to be intermediate between the black and the white. Some of them are awned and very worthless; but those that have been improved by culture and selection, are valued in the situations suited to them. Those that are chosen for seed should be plump without awns, and with but a slight darkness of color. The oats of this class are called red oats, sometimes dun, and sometimes blue oats.

The third class consists of those that are white, and the most improved of them are without awns. These are the least hardy kinds; but they are of the greatest weight to the bushel, and the most productive of meal.

In this class the Potato-oat is that which has possessed the greatest reputation for a time in the district where it is cultivated. It is not so well suited to inferior soils, some of the other white and darker colored kinds. It is less productive of straw than they, though the grain is more plump, weighs heavier, and yields a greater weight of meal. The hardier kinds, however, are better suited to certain situations than the finer, just as the hardier red wheats are better suited to certain situations than the thin-chaffed and white varieties. The potatoe-oat was the discovery of accident, and the produce of a single plant. It has in many cases shown a tendency to degenerate, by the husks becoming thicker and the body less plump, and by the partial appearance of awns.

Other minor varieties of the oat, which have had more or less reputation, are the Late and Early Angus, the Blainslie or Common white oat, and the Poland oat.

The varieties of the Angus have been much cultivated. They are hardy, of fair quality, and sufficiently productive. The Early Angus is the finest variety, and ripens about ten days before the other.

The Blainslie oat, so named from a farm noted for producing it, used to be largely cultivated in the south eastern counties of Scotland. It is

somewhat small in the grain, but produces on good soils abundant crops of grain and straw. It is an early-ripening oat, but has now generally given place to other early-ripening varieties.

The Poland oat was long greatly valued. It ripens early, and produces an abundant crop of grain; but it is somewhat deficient in straw, and is supposed to be peculiarly liable to injury from shaking. This kind has been cultivated in England above one hundred years, and, during that long period, has retained its characters.

To this must be added the Dutch or Friesland oat, which is a hardier kind, or at least better adapted to inferior soils, than the Poland oat; but it has not preserved its characters so uniformly as the Poland oat.

Other kinds could be named, as having been long cultivated in this country; but those enumerated will suffice for the purpose of example. Minor varieties of this kind may be multiplied to an unlimited degree, and we may constantly expect to see new ones obtained by accident, or by care bestowed in selection. A variety which has been lately extensively cultivated as the Hopetoun oat, derived from East-Lothian. It may be said in general, with respect to the principal kinds now in use, that the Potato and other finer kinds of oat are the best suited for low lands, and the better class of soils; that the dun oats are suited to inferior soils, or to more elevated grounds; and that on the soils lowest in the scales of fertility, the improved black varieties may be used.

The oat has a wider range of soils than any of the other cerealia, and it requires, too, less preparation of the soil by tillage and manures.

The oat is generally sown after grass, and this is precisely the period in the rotation in which the oat should be sown. It grows better upon old grass-land than any other crop, and should always be sown accordingly when land is broken up from grass of some years' standing. When land, indeed, is broken up from grass of one year, wheat, it has been seen, may be sown; but, in the majority of cases, the more suitable crop is oats. [In this country oats do not often follow grass, but generally Indian corn or potatoes, and grass seed is sown at the same time.]

When grass-land is to be ploughed for oats, this should be done in winter, or as soon in spring as the state of the weather, and the labor of the farm, will allow, so that it may, if possible, receive a little of the winter's frost to mellow it before the oats are sown. In the ordinary practice of the farm, the first operation after harvest is ploughing the stubble land intended for fallow and fallow-crops, and then the grass-land which is intended for oats.

Oats may be sown after a summer-fallow. This is done when the soil and situation are less suited to wheat and barley than to oats. In this case, the fallow is ridged up before winter, and again receives a seed-furrow in spring, though frequently the oats are sown without the seed-furrow.

Oats are sown after pulse-crops, when the land is not in a fit state of preparation for wheat and barley, or when the soil and situation are unsuited to these crops. In this case, one ploughing is generally given in autumn, and sometimes a seed-furrow in spring.

Oats may be sown after turnips or other green crops, when they are more suited to the soil and situation than wheat and barley. In this case, the green crop being removed, the oats are sown after one ploughing.

Sometimes oats are sown after oats, or other corn-crop. This is a deviation from the general rules of good culture, but it is in some cases rendered necessary by the failure of grass-seeds, and other circumstances; in this case, the land may be ploughed once; but when grass-seeds are to be sown with the crop of oats, it is better that it receive a second tillage in spring, either by the plough or the grubber.

When land is broken up from very old grass, good farmers sometimes take two crops of corn in succession. This is a deviation from the rules of the alternate husbandry. Circumstances may render it expedient; but it is the exception, and not the rule of general management.

Grass-seeds may be sown in spring with oats, in the same manner as with wheat and barley. But the land should in this case be prepared by previous fallow or green crop.

Oats are, for the most part, sown broadcast. When land is broken up from grass, the land is not in so good a state for allowing the drill-machine to operate, and accordingly the more suitable method of sowing is broad-cast. Exceptions to this may be required, when there is a great prevalence of annual weeds—as of the wild radish and wild mustard; but the general rule for sowing oats is broadcast, and the sowing in rows the exception.

The period of sowing oats is generally from the beginning of March to the end of April. From the beginning to the middle of March is held to be the best period, when the weather and state of the ground will allow.

The quantity of seed sown may be from four to six bushels to the acre. There are rarely sown more than six bushels, and there ought never to be sown less than four. [The quantity in this country seldom exceeds three bushels.]

Oats, from being sown after grass-land, are more apt to be overrun with thistles than the other kinds of grain; hence it is usual to weed this crop by going over it with the weeding instrument before referred to.

The reaping of oats is by the scythe or sickle, in the manner before explained. They should be allowed to ripen, but not to stand till they are dead-ripe. When ripe, they are to be taken sharp, as it is termed, by which means the chance of loss by winds at this critical period is lessened.

The produce of oats varies greatly with the nature of the soil and the mode of management. It is frequently calculated that thirty bushels to the acre may be the average of this country. In Scotland, where the culture of the oat is more attended to than in any other part of Europe, sixty bushels are held to be a great crop—below twenty-five an indifferent or bad one.

Oats vary in weight from thirty-five to forty-five pounds the bushel. The produce in flour is generally regarded as in the proportion of about eight to fourteen; that is, fourteen pounds of grain give eight pounds of meal, though the proportional quantity of meal increases as the oats are heavier.

The meal of the oat is used for bread; but though it is the food of a great part of the inhabitants of the north of Europe, it is inferior for this purpose to the flour of the rye, and greatly inferior to that of wheat. It is used, however, in various simple preparations for food.

But the principal consumption of the oat is for the feeding of horses,

to which purpose it is eminently adapted. In the practice of the farm, it is common to reserve the light corn for the feeding of the horses, and the heavier grain for seed and for sale.

The oat is employed also in malting and distillation: but for these purposes it is inferior to barley.

The straw of the oat is, in this country, more esteemed for provender than that of wheat, barley, and rye. It furnishes a great part of the food of wintering cattle, as will afterwards be explained. It is given also to working horses in place of hay in the early part of winter, when the work is not severe.

Oats are subject to considerable hazard of injury by the shaking of winds, as the grain approaches to its ripened state. In the early stages of its growth, too, it is subject to be attacked by several enemies, of which the principal is the wire-worm, which is the larva of a very small beetle, *Elater segetis*; and by the larvæ of several other insects, comprehended by farmers under the general name of grub.

The diseases of the oat are not numerous. It is subject, though in a partial degree, to smut, occasioned by *Uredo segetum*. [Rural Library.]

AGRICULTURAL SURVEY OF THE NEIGHBORHOODS OF SOCIETY HILL AND CHERAW.

BY THE EDITOR.

[CONCLUDED FROM PAGE 526.]

THE last place we shall notice, is that of Genl. Jas. Gillespie, whose course of culture illustrates that of the high-land planter's. His plantation is situated on the eastern side of the river, and a short distance above Cheraw. The soil is a light, sandy loam. The crops usually cultivated are cotton, corn, wheat, potatoes, oats, and rye.

Cotton.—If the field has been the season previous in cotton, a furrrough is run in the centre of the alleys, into which the manure is spread. This is covered by the plough, and the beds formed over it by breaking down the old ones. These beds are from three to three feet and a half apart; they are trenched and planted as we have already described. When thinned, they are left at the distance of not more than eight inches, which is sufficient, as the stalks usually do not attain a greater height than from two to three feet. The first working is done by running the bar of the plough as near the plants as possible, throwing the earth from them. The hoes follow, chopping out the cotton, and those who thin succeed, leaving but one stalk. The next operation is with the shovel-plough, and the after culture is sometimes with the shovel-plough, and at others with the scraper, according to the season. The hoes follow the ploughs with a few days interval, doing one acre per diem, and in this manner the crop is gone over from even ten to fifteen days.

If the ground has been previously either in oats or grass, it is broken up entirely, a furrrough run with the plough, and the same course pursued

as stated above. The average product is usually about eight hundred and fifty pounds per acre.

Corn.—This crop is planted and cultivated in nearly all respects, like that of cotton, except that in light land it is planted on a level, while in low or swamp lands beds are formed. If the ground has been previously in cotton, the furrows are run *across* the cotton beds at a distance of five or six feet, and the corn is planted at the intersection of the old beds and these furrows, leaving the corn at distances of three by six, or three by five. One stalk only is left in each hill. The average product is from twelve to fifteen bushels per acre when manured; if unmanured, the product is not generally more than ten bushels.

The other crops are not much attended to, the oats and rye being used as we have elsewhere stated, was the practice of the country, viz. for turning under as manure and spring pasturage. Genl. Gillespie cultivates more wheat than most of his neighbours, and a part is disposed of annually. We do not recollect whether the General manufactures it into flour himself, or sends it to the mill. The Early May and the Genesee are the varieties usually cultivated, which yield from eight to fifteen bushels per acre.

Manures.—Much attention is paid by the General to the collecting and application of manures. One cart and two old negroes are constantly employed in hauling into the several yards pine-trash and leaves from the woods. Mud from the creeks is also brought in and spread in these yards. The mud is also made use of in its fresh state, (that is, recently taken from the creek,) as manure for the several crops, to all of which it has proved beneficial. *Salt* has been tried in quantities of from four to ten bushels per acre; but the experiment was not successful, owing, as he supposes, to the excessive dryness at the commencement of the season, and the heavy fall of rain afterwards. He is, however, making some other experiments with it, which we hope, in time, to lay before our readers. Plaster has been tried with decided success, as far as could be judged of by the eye, producing a vigorous growth, and causing the plants to retain their pods better than where it had not been used. Its beneficial effects are more apparent in dry than in wet weather.

We have now brought the account of our spring excursion to a close. It was our intention to have made some general observations on the various sections of country we have visited, or passed through, and suggested such alterations or improvements as appeared likely to be beneficial. In these we intended not to have offered any crude notions of our own, but to have founded our recommendations either on practices in use among some of our planters, or on those pursued by our Northern brethren, which, with modifications, might be successfully adopted by us. Our present indisposition, however, forbids, and we abandon it for the present. Peradventure, we may at some future and more favourable time, take up the subject.

In conclusion, we cannot refrain from tendering our sincere thanks to the various gentlemen we have visited, having been received with the greatest hospitality and kindness by all, and treated in every instance more as an old acquaintance rather than as one with whom they had but recently become acquainted.

B A C O N .

BACON is an article of use in nearly every family in this country, yet very little attention is paid to its preparation by most of our farmers. It is enough for them that the hams are taken out, salted at random, smoked in an imperfect manner; and this is then called Bacon. The western part of Virginia is most famous for its fine bacon, and those at the North, who have in substance adopted the mode pursued there, find their bacon greatly improved.

Too heavy hogs are not as good for bacon as those that are smaller, if equally well fattened. One that will weigh two hundred *is large enough, as the salt will strike through the pieces more equally, and the smoking be more perfect. It is essential for the first rate bacon, that the pork should be corn fed; at least, if any thing is used to aid in fattening, it should be in the first part of the time, and corn be given for five or six weeks previous to slaughtering. The pork of corn fed pigs will be hard and compact, and the kidney fat instead of being soft and unctious like lard, will be solid like beef suet.

In the best establishment for making bacon, three pecks of salt and one pound of saltpetre is used for every thousand pounds of pork, the salt to be measured, and the saltpetre reduced to powder, thoroughly incorporated or mixed with it. None but the best salt should be used in making bacon. At the South, that which is produced at the Kenhawa works, at the first crystalization is preferred; at the North, the coarse salt of the Onondaga works, or that produced by evaporation, is to be chosen as more pure than any other kind.

The prepared salt is to be thoroughly rubbed on the meat, and then liberally sprinkled over the outside. There is little danger of over salting from quantity; it is length of time that produces the result. The meat is to be laid with the skin side down in good casks, the hams and shoulders first, and then the smaller pieces. Salt must be sprinkled over the bottom of the cask before the meat is laid in. At the fourth or fifth day the meat must be taken up and again thoroughly rubbed with the salt.—At this period of the process, some use a tea-spoon full of powdered red pepper to each piece, and the whole is replaced after any bloody or impure brine that may have formed in the cask is removed. In about two weeks, the smaller pieces will be fully salted, and should be taken from the cask, and the remainder repacked, those that were at the top being now placed at the bottom, as pressure will prevent the passage of the brine through the meat, if the position of the pieces is not changed, the shoulders will be struck through in about three weeks and the hams in four.

Smoking is the next important part of the business, and should be well done, or good bacon cannot be made. Smoke houses are usually too small; the meat hangs too crowded and too near the fire. The pieces should by no means touch the wall or each other, but space for the free circulation of the smoke should in all cases be allowed. The time required for smoking is the same as that for salting—four weeks for hams, three weeks for shoulders, and two weeks for the other pieces, or middlings. Damp weather is improper for smoking meat, as the bacon, from the dampness that is apt to settle on the meat, acquires a bitter flavor in some respects like that given by pyroligneous acid.

Sound maple chips, or blocks of hickory wood, are chosen for smoking meat, though the celebrated Hamburg hams are smoked with oak wood alone.

The smoke house should be at a moderate temperature, as that will greatly assist in preventing the appearance of dampness on the meat. Two fires a day, if properly made, will finish the smoking in the time specified above. Some throw occasionally powdered red pepper on the fire, as it is said to prevent the attacks of insects on the bacon after smoking, and somewhat improves the flavor.

If the smoke house can be kept perfectly secure against the entrance of insects, and is dark and cool, the bacon may be left in it till wanted for use; but there are few houses of this description, and on the approach of warm weather must be taken down and packed away secure till required for the table. Salt, clean hickory ashes or oats, will secure it from insects or dripping, if placed in a dry and cool position. It is sometimes kept by white-washing the surfaces, by dipping the hams in strong ley, which converts the surface into a kind of soap, and sometimes by sewing them up closely in cotton. Probably the best mode, however, in all respects, is to pack them down in powdered charcoal, which will not only effectually exclude all insects whatever, but by keeping the meat dry, and correcting any tendency to unpleasant flavor, keep the meat in good order for any length of time. [Genessee Farmer.]

BENEFITS OF ROOT CULTIVATION.

THE culture of roots for the rearing of swine and for winter feeding of cattle, I believe to be a great object to most farmers. The mangel wurtzel, the sugar beet, the common beet, the carrot, and perhaps the parsnip may be raised on ground that will produce a good crop of corn; the ruta бага may be raised on a lighter soil and with less manure than the other crops. In proportion to the quantity produced with the same labor, I am inclined to give the preference to the ruta бага. That crop may be raised with about as little labor as a crop of potatoes upon the same ground. If the season be fortunate, six and eight hundred, and sometimes a thousand bushels to the acre are produced: a thousand bushels weighing twenty-five tons, dealt out to a stock of cattle, will be equal in value to at least ten tons of the best hay. It is a mistake to suppose that the ruta бага spoils either the meat or the milk of the creature fed upon it.—This mistake originated in the fact, familiar to many practical farmers, that the turning of fat cattle and cows into fresh feed, where turnips, cabbages and onions have been raised and cleared out, leaving tops and leaves, will make them liable when slaughtered or milked to leave the meat or the milk tainted with the taste and flavor of the articles upon which they have fed. Milch cows fed daily on ruta бага once a day will communicate no taste to the milk; and if there be any doubt about fat cattle, the leaving off the ruta бага one week and substituting corn or other feed, will leave their meat in as good flavor and quality as if they had fed exclusively on corn. I prefer

late sowing of ruta бага, say as late as the 10th of June, to an earlier day; this root grows best in cool weather, and by late sowing it much better escapes the turnip-fly and destroying grubs, and has the advantage of a vigorous growth late in the fall until severe frosts shall render it a matter of prudence to gather them. Beets of the various kinds, and carrots, to such as do not admire ruta бага, may be made well to supply their place. Fed with either, winter milked cows may be made to give double the quantity of that most necessary and most grateful article in the consumption of every family, that they will give when fed simply on the best English hay. With the general cultivation of roots my present conviction is, that the quantity of beef and pork and butter and cheese produced in New-England may be increased one-half, and might be very easily doubled.

[Cheshire Farmer.]

FENCE POSTS.

AN excellent mode of rendering these durable in the ground, is published in the *American Eagle*. It consists, 1. In peeling the posts, and in sawing and splitting them, if too large; 2. In sticking them up, under cover, at least one entire summer; and 3. In coating with hot tar, about three feet of the butt ends, which are to be inserted in the ground, after which they are ready for use. We have no doubt the advantage of this mode of preparation will more than remunerate for labor and expense. Our reasons for this belief are briefly as follows:—The sap of all non-resinous trees, will ferment in the presence of heat and moisture, and cause the decay of wood. To prevent this natural consequence, the first object should be, when a tree is felled, to expel sap from the pores of the wood. This is done by peeling, sawing, or hewing, and exposing the wood to the drying influence of the sun, or at least the air. The process is facilitated too by immersing the wood in water for a time, which liquifies the sap, and favors its expulsion. And when the moisture has been expelled, the next object is to keep it out, by paint, tar or charring. In the mode recommended above, the moisture is expelled by the peeling, sawing and summer drying, and its return is prevented by the coating of tar. The retention of the bark upon the timber is particularly prejudicial, not only in preventing evaporation, but affording shelter to various species of the borer, which under its cover, carry on its depredations upon the timber. We have seen pine logs nearly destroyed in a summer by worms, where the bark has been left on, while those which had been peeled remained uninjured. The best timber is obtained from trees which have stood a summer, or a year, after they have been girdled and peeled.

[Albany Cultivator.]

For the Southern Cabinet.

ON THE CULTIVATION OF THE FIG TREE IN CAROLINA.

I cheerfully comply with the request of the Fruit Committee of the Horticultural Society, in communicating such facts as I am acquainted with, in regard to the cultivation of the Fig tree.

I regard the fig as one of the most valuable among the fruits cultivated in the maritime districts of South-Carolina. It is wholesome and delicious. The tree is of easy growth, does not take up much room, is seldom injured by frosts, bears from one to three crops in a season; and there are so many varieties that, with a little care, good fruit may be obtained from June till the frosts of November.

Species cultivated.—There are, according to Botanists, considerably over a hundred species of Fig tree; the majority bear fruits which are not eatable. All our varieties cultivated in this country may be referred to one species—the *Ficus carica*. These varieties have all originated in Asia, Africa, and the southern parts of Europe, from seeds. The fig belongs to that family of plants arranged by Botanists, under the class and order, *Diacia triandria*. The male tree has not been introduced into this country—hence, the seeds of our cultivated varieties are all abortive, the tree being propagated by layers or cuttings; no new varieties have, therefore, originated in America. Nearly all our varieties of the fig, have been from time to time received from different parts of the Mediterranean. Those in Louisiana were generally imported from the south of France; hence, there are several varieties in the neighbourhood of New-Orleans, which have not found their way into Carolina. The small but delicious Celestial fig was, I think, received from Louisiana but a few years ago. Although it might be advisable as a matter of interesting horticultural experiment to import the original wild Fig tree, or the male of some of its varieties; yet there are so many valuable varieties cultivated on the Eastern continent, that a selection from these may easily be made, by which our tables may be supplied with a constant succession throughout the season.

Method of transporting Cuttings of the Fig tree.—This process is both simple and safe. The cuttings should be taken from the tree any time during autumn or winter, packed in earth or moss, in boxes or barrels, and will easily survive a passage across the Atlantic.

Mode of Propagation.—The cuttings will succeed best in this climate when planted in the month of February. Those, however, that have been taken from the tree at an earlier period, will succeed very well when planted a month later. It may be successfully inoculated. As the tree, however, grows readily from cuttings, a resort to this method is only desirable when we have stalks of an inferior kind, the inoculations growing so rapidly, that there is usually a saving of a year by this method. The tree grows readily from shoots, but I have found, from many years experience, that cuttings succeed better and grow more rapidly. A limb is laid horizontally, covered by seven or eight inches of earth; a branch is suffered to project from the earth, which forms the future tree, whilst the parts under the surface are formed into roots. It usually commences bearing the second year.

We have, introduced into Carolina, as far as I have been able to observe, about twelve or fourteen varieties of the fig. These usually are named according to their colours—such as black, blue, brown, lemon, and white figs. One variety, the large white lemon fig, produces an abundant early crop, whilst the large brown fig, when carefully attended to, continues ripening its fruits till late in autumn. The black and blue figs seldom bear an early, but usually a very abundant second crop.

To produce an Early Crop of Figs.—I have long been under an impression that one great cause of our want of success in producing fruits of various kinds in Carolina is owing to our neglect in manuring our fruit trees in the proper season. This is applicable especially to our apple, pear, quince, and plum trees. In the pear especially, the manuring of the trees with decayed leaves, or litter of any kind in autumn, has almost invariably been succeeded by an abundant crop in the following year. In an experiment I made on the black, blue, white, and brown figs, I am inclined to think that by manuring them an early crop of figs may be obtained from all these varieties, although some kinds produce less abundantly than others. In the month of November last, I had the earth removed from my Fig trees, by which process many of the small roots and fibres were cut off. I placed a wheelbarrow load of well rotted stable manure around each tree, which was covered with earth. The trees had been planted in a moist soil, and were somewhat injured by the heavy rains of the present unusually wet season. This was in some measure remedied by adopting the European system of under-draining, which I found very advantageous. I have never had a more abundant early crop of figs, or of finer flavour. This I have ascribed to manuring. As it was a first experiment, I am unable to state positively whether this method would always succeed equally well.

Insects which infest the Fig tree.—Hitherto this tree has been subject to few diseases, and scarcely suffered from the depredations of insects. The large white coccus, of a scale-like, mealy appearance, did not materially injure the tree or the fruit; and the fig-eater comes in late in the season to claim his share of our abundance, to which he seems fully entitled by the laws of Nature. A minute and much more formidable insect, however, whose character I have not yet fully investigated, has within the last few years attacked the limbs and leaves of our Fig trees, covering the surface, extracting the juices, and in some cases destroying the tree in a single year. The only remedy I have thus far been able to discover, is by scouring the tree and its branches with a hard brush dipped in moist sand, and finally washing it with soap-suds or some strong alkali.

Respectfully,

July 16th, 1840.

JNO. BACHMAN.

TO THE FRUIT COMMITTEE OF THE HORTICULTURAL SOCIETY.

MANAGEMENT OF FRUIT TREES.

Preparing the Ground for Planting.—The first requisite to procure a good orchard is to select a dry piece of land. A sandy loam is preferable, but any land will answer if it is sufficiently dry. The land should be manured, ploughed at least to the depth of one foot, and planted with some hoed crop the year previous to setting the trees. Potatoes are preferable, as they leave the ground well pulverized.

Trimming the Top in Transplanting.—Trees when first set should be very cautiously trimmed, and all or nearly all the top should be left the first season. I know that in this particular I differ from the commonly received opinion. But I have learned by sad experience, that cutting off and mutilating the tops at the time of transplanting, retards their growth at least one half, for the first five years. I shall here adduce some reasons why I think it a bad practice, setting aside my experience on the subject. The leaves of trees and vegetables are the lungs, through which the sap is elaborated and converted into vegetable fibre. This process "consists in the decomposition of carbonic acid gas, is either brought to the leaves by the sap, or absorbed directly by the atmosphere. The substance of all plants is mostly carbon; and as carbon in its common state, however minutely divided, is mostly taken up by the sap of plants, this most essential ingredient is obtained in the form of carbonic acid gas, from which the oxygen is separated by the leaves under the action of light, leaving the carbon ready for assimilation or conversion into vegetable fibre." From this statement, it will be seen that the leaves and roots act mutually; the one is as necessary as the other to promote the growth of the tree, and without this concert of action the sap would ascend and descend without adding any thing to the tree; and when the sap returns without being elaborated in the leaves the roots cease to grow, or at least grow very little the first season.

Washing the Trunk.—Trees should be washed annually with soft soap, and well rubbed with a woollen cloth. This is the best preparation that I ever tried to destroy lice and give a healthy appearance to the trees.

Orchards should be well ploughed and planted to some hoed crop for four or five years.

Erie co., 1840.

A. W. B.

[New Genessee Farmer.

ON THE MANAGEMENT OF PLANTS IN ROOMS.

BY JOSEPH PAXTON, F. L. S. & H. S., ONE OF THE CONDUCTORS OF THIS MAGAZINE.

To treat on the proper management of plants in houses, is a subject attended with considerable difficulty, every genus requiring some variation both in soil, water, and general treatment. If the room where the plants are intended to be placed, is dark and close, but few will ever thrive in it;—if on the contrary, it is light and airy, with the windows in a suitable aspect to receive the sun, plants will do nearly as well as in a

green house ; but if they are observed to suffer, the effects may generally be traced to one of the four following causes :—want of proper light and air,—injudicious watering,—filthiness collected on the leaves,—or, in being potted in unsuitable soil.

1st. *Want of proper light and air*,—is perhaps the most essential point of any to be considered ; for however well all other requisites are attended to, a deficiency in either of these, will cause the plants to grow weak and sickly. Let them always be placed as near the light as they can conveniently stand, and receive as much air as can be admitted, when the weather will allow,—indeed those persons who have no other conveniency than the house to keep them in, will find that they derive immense advantage from being, during fine weather, in spring and autumn, turned out of doors in the evening and taken in again in the morning,—the night-dews contributing greatly to their health and vigour.

2nd. *Injudicious watering*,—does more injury to plants in rooms, than many persons imagine. To prevent the soil ever having a dry appearance, is an object of importance in the estimation of very many, they therefore water to such an excess, that the mould becomes sodden, and the roots consequently perish. Others, to avoid this evil, run exactly into the opposite extreme, and scarcely give sufficient to sustain life. This however, is by no means so common a practice as that of giving too much ; for in general, if anything appears to be the matter with the plants, large doses of water are immediately resorted to, and if recovery is not speedy, this nostrum is again administered, with but little doubt of its infallible restorative powers :—but such persons, like an unskilful physician who gluts the weakly stomach of his patient, only hasten on, what they are trying to prevent. This overplus of water, will show its bad effects by a very dark colour and flabby disposition of the leaves ; and if the plant receives too little, the leaves will turn yellow, and eventually die.

The best plan is, to always allow the soil in the pot to have the appearance of dryness, (but never sufficient to make the plant flag, before a supply of water is given, which should then be pretty copious, but always empty it out of the pan or feeder in which the pot stands, as soon as the soil is properly drained. The water used for the purpose, ought always to be made about the same temperature as the room in which the plants grow,—never use it fresh from the pump,—either let it stand in a warm room all night, or take off the chill by adding a little warm water to it, or the growth of the plants will be much checked.

3rd. *Filthiness collected on the leaves*,—may either arise from insects, or dust, the former may be speedily remedied, by placing the plants under a hand-glass, or any thing that is convenient, and burning some tobacco until they become well developed in the smoke ;—and the latter, may be removed by occasionally washing them on the head with pure water, either by means of a syringe, the rose of a watering-pan, or with a sponge, when the filth still adheres.

4th. *Being potted in unsuitable soil*,—is by far the most difficult part of the business to rectify, for no certain line can be drawn, unless each genus was treated on separately ; however as this cannot be done in a paper like the present, a few general remarks, which, perhaps with some little exceptions, may be found to be pretty correct, must suffice.

All plants whose branches are fragile or slender, and roots of a fine thready, fibrous texture, with general habits like the *Ericæ* as *Diósma*

Andersonia Epacris, will require the same soil, (peat earth) and very similar treatment to Cape Heaths. Those whose wood and general habits partially differ, and whose roots are of a stronger texture, as *Acacia*, *Ardisia*, *Stenocarpus*, *Tetrathica*, *Tristania*, &c. will require a portion of sandy loam,—in many cases about equal parts; and where the habits, &c. differ materially from the Heath, only a small portion of peat earth will be required, and a compost may be made a little rich, by the addition of well rotted dung, or a similar soil to that prescribed for *Pelargoniums*. Almost all Cape and other bulbs, as *Sparaxis*, *Ixia*, *Gladulus*, *Tritonia*, &c. thrive best in light rich sandy loam, without any mixture of peat. Shrubby and herbaceous plants, with luxuriant roots and branches, as several species of *Myrtus*, *Jasminum*, *Hibiscus*, *Hermannia*, *Heliotropium*, &c. require rich loam, lightened with leaf soil, without any portion of peat. Plants with powerful roots, and but slender heads, as *Veronica*, *Senecio*, *Scutellaria*, *Ruellia*, *Maurandia*, &c. require a light sandy soil, mixed with a small portion of leaf mould and rotten dung. At the time of potting, always lay plenty of broken potsherds at the bottom of each pot, to give a good drainage.

It will be seen that these directions do not allude to either Orchideous, Succulent, or Aquatic Plants.

Many of the *Orchideæ* are parasitical, and require a portion of decayed wood mixing with the soil;—others grow in damp moss—but these being chiefly stove plants, they will not flourish in a room: there are several genera however, that do very well both in the green-house, and in rooms, as *Arethusa*, *Calopogon*, *Dendrobium*, *Ophrys*, &c. the soil suitable for these, is a mixture of about equal parts of light sandy loam and peat; very little, or no water, must be given when they are not in a growing state.

Succulent plants, of all descriptions, require very little water, and in general are very easily managed in rooms; many of them thrive in a mixture of sandy soil and lime rubbish, as *Alœe*, *Cacalia*, *Cactus*, *Aizoon*, &c.; others grow well in a mixture of peat and loam, as *Codris*, *Cotyledon*, *Mesembryanthemum*, &c.

Aquatic plants, as *Villarsia*, *Actinocarpus*, &c. generally do well in a mixture of peat and loam, and require to be constantly kept in a wet state;—indeed the best way is to place the pot in a deep pan or feeder, which should always be kept full of water.

Bulbs of most sorts, flourish in rooms, with less care than most other kinds of plants.

If the above precautions be attended to, plants may be brought to nearly, if not altogether, as much perfection as in a green-house.

JOSEPH PAXTON.

[*London Horticultural Register.*

ON THE CULTIVATION OF THE FUCHSIA.

BY DELTA.

THIS beautiful tribe of plants, is become a general favorite among all classes of society. More than twenty species may be obtained at the nurseries, of which six are perfectly hardy, viz.—*Fuchsia coccinea*, *gracilis*, *tenella*, *virgata*, *conica*, and *macrostemon*.

The *F. lycioides*, *excorticata*, *microphylla*, *parviflora*, *arborescens*, &c. require a green-house or frame. The only one which requires the stove, is the *venusta*, or beautiful, it was introduced from Mexico, in 1825.

The Fuchsia is easily raised from cuttings, and by seed for new varieties. Take off in October, well ripened cuttings with two joints, plant them in pans of light sandy loam, and place a bell-glass over them, then plunge them in a gentle heat, and keep them free from decayed leaves, and in three or four weeks they will have struck root; when this is the case, let them be potted out. Place each plant in a 60-sized pot, with as good a sized ball as can be obtained, then fill the pots with a mixture of rich loam and peat, in about equal proportions; re-place them in the hot-bed, and keep the temperature to about sixty degrees Fahr. until they have started growing again. About the end of April, they will require re-potting; after which, those intended for the open border, should be hardened by degrees—removing them, first to the green-house—next, to the frame—and eventually to a warm situation out of doors; if this be properly attended to, they will receive little or no check from the effects of the change of climate.

In propagating by seed, take it when well dried, and sow it in pans of light sandy loam, place it in a gentle hot-bed, and give gentle waterings until the plants appear; when they have attained three or four leaves, transplant them into thimble pots, and treat them in the same manner as recommended for rooted cuttings.

After the plants have been a summer in the open ground, and are cut off by frost in the winter, the best preservative is, to cut them down even with the ground, and turn a pot or box filled with leaves, over them, drawing the earth a little round the pot, and the plants if kept dry, will receive no injury in the most severe winters.

In the spring following, they will put up ten or twelve stems, all of which, except three or four of the strongest, should be pinched off; by this method I have had the *F. gracilis* to grow as high as eight feet in the course of the summer, and the other species in like proportion. DELTA.

February 17, 1832.

[London Hort. Reg.

CULTURE OF PELARGONIUMS.

Mr. Appleby, Gardener at Horsforth Hall, always makes it a rule to put in his cuttings in the beginning of July every year. He prepares them in the usual way, viz. takes them off with three joints, cuts off the bottom leaves pretty close to the stem, and makes a cut clear across the bottom joint. They are then planted round the edges of pots nine inches diameter, filled to within an inch of the rim, with a compost of leaf mould, loam, and peat, in equal parts, and the remaining inch with light maiden soil. After the cuttings are pressed pretty tight in the pots, and well watered, they are placed in a frame facing the south, and in very sunny weather they are shaded. After the first ten days a little air is given when required. When rooted, they are potted into large 60-pots, with light maiden soil, and kept in the frame till they have struck

fresh roots; then inure them to the open air, and let them remain till it is necessary to take them into the green-house. At the end of March following, shift them into pots six inches in diameter, in a compost of equal parts of vegetable mould, good loam, and well-rotted cow-dung at least a year old; mix, (but do not sift it) and put it under a cover a few days, to dry. After this potting, a little extra heat is given, with plenty of water and air, which quickly brings them into flower. When the bloom is over, turn them out into the borders to flower again in summer and autumn. The essentials of this mode of treatment are—striking cuttings in July every year, which prevents the plants getting too large; potting when struck, in small pots and poor soil; shifting in spring into larger pots, and very rich compost; and planting out or throwing away in summer.

Mr. Robert Elliot, gardener to W. Hartley, Esq., Rose Hill, near Whitehaven, begins putting in cuttings in May, giving them the usual treatment, until they begin to grow freely; he then pinches off the top shoots, which causes the plants to grow bushy. He keeps them all winter in a common frame, with a few inches thick of coal ashes, to prevent the plants from being injured by damp. Air is freely given by day, and the frame shut close down at night. As the winter advances give less water, and keep the plants clean. All round the outside of the frame is covered with soil about a foot thick, pressed close, and nearly level with the glass, sloped so as to carry off the wet. In severe frosts cover with mats; and if necessary, with a straw mat, and over all a wooden shutter. Uncover the frame when the sun shines upon it, and cover it again as soon as the sun leaves it, and give air every day when the weather is mild.

[Gard. Mag.

ON THE CULTIVATION OF THE CAMELLIA, AND

ITS VARIETIES. BY AN AMATEUR.

Gentlemen,—The Camellia, is justly esteemed one of the finest, if not actually the finest, of our exotics, and indeed, there are few of the beautiful denizens of the greenhouse and conservatory, that can lay equal claim to our attention. Unlike most of its compeers, this lovely genus, at all seasons, whether it be in blossom or not, excites our admiration. During the summer and early winter months, we are pleased with its bold and elegant form, and with the deep glossy hue of its beautiful foliage; whilst from Christmas to May, the varieties delight and charm by their fine and showy flowers, of white, buff, striped, and red, of every shade, from the deep crimson to the soft tint of the maiden's blush. The Camellia may in truth be called, "the most beautiful of the beautiful," for what, in the whole range of our exotic flora, is more beautiful than a fine specimen of the Old Double White, having, perhaps, one or two dozens of splendid blossoms fully expanded? or what more delicate than the bloom of *C. sasánqua*, now called *C. maliflora*? The Old Single Red, *C. japonica*, appears to have been introduced into England, in the year 1739; and according to Messrs. Chandler and Booth's Camelliae, the Old

Double White was brought to England in 1792, by Sir John Slater, of the East India House; and the Old Double Red imported in 1794, by Sir Robert Preston, of Vallyfield: since which time, many fine varieties have been imported from China, and many fine seedlings have also been raised in this country, within the last few years, more particularly at the Vauxhall Nursery. The names of one hundred and fifty, or one hundred and eighty varieties, might now be collected from the various catalogues of the London nurserymen, but nearly two-thirds are unworthy of notice, and many are mere repetitions of each other.

Stocks, upon which to inarch, graft, or bud, the double sorts, are obtained from cuttings of the Single Red: the cuttings may be taken at any period, after the wood of the present year is ripe. They should be planted in pots of fine white sand, about forty or fifty cuttings to a pot of eight inches diameter; the pots should be well drained, being nearly half filled with pieces of broken pot. Two or three leaves should be left upon each cutting, at least, no more must be removed than is absolutely necessary to allow of the cutting being firmly fixed in the sand. After the pots are filled they should be placed in a shady part of the greenhouse for five or six weeks, and then, if convenient, they ought to be plunged in a gentle hotbed;—a bark bed will do, but not quite so well. By their thus having bottom heat they will strike root in one half the time they would do, if left in the house. As soon as rooted they should be potted off into small pots, and afterwards kept, if possible in a hotbed or hothouse, where they will make fine strong wood, and be fit for use in fifteen or eighteen months.

Inarching, or grafting by approach, is generally resorted to for the propagation of the Double Camellias; and not unfrequently, grafting* or budding. The former is by far the safest, and may be performed during the summer and autumn, after the ripening of the wood, or early in spring, before the plants begin to grow. The scions may be cut from the parent plants in about eight weeks. There is no necessity to use clay in the operation of inarching, but if independent grafting be resorted to, clay must be used, and the wood must be quite ripe. The method called side-grafting is usually followed, but the tongue, if any, must be very small; both in this operation, and that of inarching, care must be taken not to cut the stock or scion, too deep. The grafted and budded plants, as soon as the operations of insertion and claying are finished, should be kept under a hand-glass, in the greenhouse, or in a cold frame, until the scion or bud has grown for the first time; and not till then, can the heads of the stocks be cut off, without great risk of failure, because an exuberance of sap is thus thrown into the scions or buds, before they are established to receive it without injury,—just as too great a supply of nutriment injures the infant of the human race. Nor should the ligatures and clay be removed before that time, (these and the foregoing remarks are also applicable to the young inarched plants,) after which, all the

* When it is inconvenient to inarch in the usual way, the best method of grafting, is that adopted a few years ago, by Mr. Pike, Gardener to W. I. Brereton, Esq., of Brington, Norfolk, and noticed in the Gardener's Magazine, vol. 2, p. 33. It is, detaching a shoot from a plant, of the kind intended to be propagated, and inarching it upon a single stock, leaving a piece at the bottom of the cutting, sufficiently long to thrust in a phial, kept constantly supplied with water.—*Conductors.*

plants should have their tops nipped off, to two or three buds, or they may be removed by inarching or grafting them, if it be wished to increase the stock of the variety; but unless one of these precautions be followed, the plants will very probably run up with a single stem, and instead of being bushy and pyramidal, will be loose and rambling, and must eventually be cut down. The young plants, after being thus decapitated, should be treated, if possible, in the same manner as recommended above, for the young stocks, viz., to be kept in a gentle hot-bed, or kept in a cool part of the hot-house, they will soon become fine plants; but if any are still inclined to be of a straggling growth, the side shoots should be shortened. No plant bears the knife better than the Camellia; and here I would recommend to those of your readers, who have large and ugly grown plants, to prune them freely, re-pot them, and then place them in a little heat of some kind; and however old the wood may be which is left, it will soon be covered with young shoots.

The general management of the Camellia is simple and easy; the chief points are to protect it from the scorching sun, and to prevent its roots from matting around the sides of the pot. Should it be exposed during the spring and summer to the influence of the sun, the deep dark green of its foliage soon fades, and is followed by a sickly yellow hue, therefore, I would recommend that from the beginning of April to the middle of September, the plants should be wholly faded from the sun, or at least, exposed only to the early morning sun;—if this recommendation be once followed, it will never afterwards be neglected. However, in recommending that the Camellia should be protected from the sun, I do not advise that it should be deprived of light; yet, it is worthy of remark, that even during the winter months, this plant will thrive in the darkest parts of the greenhouse and conservatory, where most others would be soon destroyed. Except, during the growing season, when a liberal supply of water should be given, the Camellia requires to be kept rather dry; but if the roots are allowed to become matted, the water will run down the sides of the pot, and escape by the hole in the bottom, without penetrating the ball of the earth, the roots will be impoverished, and will not imbibe a sufficiency of moisture for the support of the plant, and the first symptoms of this will be the sudden dropping of the leaves and buds, although they may appear green and healthy; the death of the patient soon follows, unless the remedy be instantly applied, by pruning, re-potting, and the application of artificial heat.

"Some cultivators grow the Camellia chiefly in peat. Messrs. Loddiges who have the most numerous collection of the genus, formerly used loam, with a little sand and peat, and they are grown in similar soil, in the Hammersmith Nursery. Of late, Messrs. Loddiges, find light loam alone, to answer as well, if not better. In the Compté de Vande's garden, at Bayswater, rotten dung is mixed with loam and peat. Sweet, recommends sandy loam and peat. Henderson, of Woolshall, is one of the most successful growers of the Camellia, in Scotland; his compost is as follows,—take one part of light brown mould, one part of river sand, and one half-part of rotten leaves; mix them well together"—(London's "Encyclopædia of Plants," London, 1829.) For my own part, I agree with Mr. Sweet, and use about one-third peat, and two-thirds sandy loam. The peat and loam should be turfy, and ought not to be sifted, but chopped together with a spade, and should be rather coarse and lumpy; this will secure a free circulation to the water, and prevent, in

some measure, the mischief arising from the matting of the roots. * Mr. Sweet, has justly observed, that when the mould is sifted, it often bakes as hard as a brick, so that it is impossible for the roots to get through it.

The best time for shifting the Camellia, is during the month of February, and the beginning of March; and if it be advisable not to give the plant a larger pot, it should, however, be turned out, and a little of the earth taken from the top, bottom, and sides, of the ball,—then returned, and the pot filled with a little fresh compost, having first put some broken pot at the bottom. The earth must be removed gently from the ball, with the fingers,—not a root taken away, unless it be dead,—no cutting and paring the ball with the pruning-knife. In potting, they must always be well drained. A top-dressing, would be of much benefit to the plants,—if given at the time of fixing them in their domicils for the winter. The surface should be often stirred with some instrument, that will not injure the roots,—this will keep the earth light, and prevent the moss from collecting.

A little artificial heat, during the growing season, would make the plants push strong and fine shoots;—and if they are again put into a little heat, in the month of November, it will greatly forward the blossoms, and they will expand finer and better, than they might otherwise do; but in no case, should the plants be kept in heat, during the flowering season;—if so, the flowers will much sooner drop, than they would do in the temperature of the green-house or conservatory, in which, they would continue in full beauty for a considerable time.

The Camellia, like the Orange, but in a much less degree, is subject to the Scaly Bug,—the only *effectual* remedy, is to *pick* them off one by one with the nail, and rub the parts affected, with a little soft soap. The Green Fly, will sometimes attack the young green wood; here, immediate smoking with tobacco, is the remedy. By frequently syringing the leaves during the summer, and washing them with a sponge, two or three times in the course of the winter, the health of the plants will be improved, the attacks of the insects prevented, and the beauty of the foliage shown to more advantage.

I have now, gentlemen, laid before you the results of my experience in the cultivation of this beautiful genus; and at the risk of being considered tedious, I have been rather minute;—but in a communication of this kind, elegance and conciseness, should give way to simplicity and clearness of detail.

If it be agreeable to you, I will forward to you in the course of a few weeks, a list of the varieties most worthy of cultivation, accompanied with a few observations on some of them.

I remain, Gentlemen, yours, &c.

A YOUNG AMATEUR.

G. A. L.

{London Horticultural Register.

December 9, 1831.

ASPARAGUS.

Treatise on an Improved and Cheap Method of Cultivating Asparagus.

By Ninian Niven, Landscape-Gardener, late Curator of the Royal Dublin Society's Botanic Garden, Glasnevi, Author of the "Botanic Garden Companion." Pamph. 12 mo., pp. 31. Dublin, 1839.

About nine years ago, Mr. Niven began to pay attention to the culture of asparagus, from being situated in a place where, previously to his management, the crop has always failed. He adopted as a principle the enriching of the surface soil and the encouragement of the surface feeding roots, in opposition to the usual practice of deep trenching and deep manuring. We can easily conceive that the result of this would be earlier and better-flavored heads; but Mr. Niven also found that the produce of cultivation on the surface-feeding principle was even more bulky than that of watery or deep preparation feeding.—Mr. Niven plants in rows four feet apart, with the plants six inches from each other in the row. The surface of the soil to be planted with asparagus is enriched with half-rotten leaves and rotten hot-bed dung, to the depth of three inches, to which is added, where it can be obtained, a stratum of sea-weed. Before planting, the ground is laid up in ridges four feet apart, and the roots of the plants are "set down on the little ridge or saddle prepared for them, as a man sits upon horseback;" a person following with a harrow full of sand, which, with the spade, he "lays over the roots and crowns, about an inch thick, observing to tread successively both sides of each line as he proceeds, with one foot, to firm the sand to the plants, so as to secure them from the action of the air, until the process of planting is concluded, when a second and final covering of about four inches of rich compost of dung and rotten leaves is to be put over the ridges or lines, which is to be firmly trodden to the line of plants, as before. A small portion of the original surface between the rows may then be thrown up with the spade, right and left, dressing neatly between every two lines as you proceed, and the process of planting, which is exceedingly simple, is finished." The produce of two rows, treated in this manner, Mr. Niven has found "fully equal in quantity to any one bed with three rows on it, besides being much superior in quality."

The plants appear growing out of elevated ridges; and in May, when the short grass mowing begins, a portion of grass is shaken in between the rows so as to fill the hollow space quite up to the necks of the plants. This supplies nourishment and retains moisture, while the slight degree of fermentation which takes place, heats the soil and stimulates the roots. When the shoots come up, they are thinned, by cutting away the weakest, "so that by the end of the first season, not more than two, or at least three, shoots are left to grow to maturity on each plant. Proper attention to the thinning of asparagus, in the first instance, immediately after planting, during the first and second years, and afterwards also in cutting for use, is of essential importance towards the future welfare of the plant." Mr. Niven's object is to leave a supply of strong shoots regularly over the bed, in order that the buds formed at the base of these shoots may be strong and fit to throw up vigorous heads next year.

We may here observe that the practice of the market gardeners in the neighborhood of London is, to cut over every shoot, whether small or large, up to a certain day in June; after which the beds are left untouched till the time for winter dressing. This, it would appear, is found to be the most profitable mode for a market-gardener, because he sorts his heads into three sizes, and finds a demand for each; whereas the private gentleman's gardener can send no head to table that is not large and finely grown.

But to return to Mr. Niven's practice. In November, when the tops having become yellow are cut over, the crown of the ridge is reduced a little with the hand, and about four inches of sea or "rabbit" sand is laid along over the line of plants, while rotten dung, leaves, and sea-sand are slightly stirred in the soil between the ridges. But it is needless to go farther into routine culture. Suffice it to say, that Mr. Niven has fully established the superior advantages of surface culture, which, had the subject been duly reflected on, might have been foreseen. The same principle is now being very generally applied to the culture of every description of useful plant, and more especially to the culture of fruit trees. In short, the subsoil is beginning to be considered as chiefly useful as a reservoir of water, and the surface soil as a store-house of food.

We are glad to find Mr. Niven disapproving of cutting the heads of asparagus a few inches below the surface; "for what useful purpose this is done," he says, "we are at a loss to conceive, inasmuch as the white or blanched part of the grass is so usually hard and stringy as to be scarcely fit for use; whereas, by allowing the heads to grow the proper length above the surface, say about eight inches or so, they will not only still be compact, but the whole of the grass will be tender and eatable."

HOW TO INCREASE THE PRODUCTIVENESS OF TREES AND PLANTS.

Mr. Knight in his treatise on the culture of the apple and pear, has this passage: "In the garden culture of the apple, where trees are retained as dwarfs or espaliers, the more vigorously growing kinds are often rendered unproductive by the excessive though necessary use of the pruning knife. I have always succeeded in making trees of this kind fruitful by digging them up, and replacing them with fresh mould in the same situation. The too great luxuriance of growth is checked, and a disposition to bear is brought on." The same observation was made by Mr. Lawrence. So if beans which are but a few inches high, be transplanted, they do not become so tall, but they flower and ripen sooner. The same occurs in frequently transplanting broccoli; the plant does not grow so tall, but has earlier flowers, and in greater numbers. It is probable, says Dr. Darwin, that confining the roots of the cucumbers and melons in small garden pots would stop the too luxuriant growth of the vines, and make them more fruitful, if care was taken to supply them with water more frequently, and with sufficient nutriment, by mixing with the water some of the carbonic black fluid which has drained from a manure heap.

[*New-England Farmer.*]

TALES, SKETCHES, &C.

A SKETCH OF THE CITY OF NAPLES.

BY C. G. ADDISON, ESQ. OF THE INNER TEMPLE.

MODE OF BURYING THE DEAD.

Nov. 26.—After leaving the town, we ascended the hill between some vineyards, and halting before a low edifice, we entered a doorway, and found ourselves in a large square surrounded by buildings. In this square are three hundred and sixty-six round orifices, each closed by a large stone. One of these was open, and the large stone which was to close it up, was placed by the side of the hole, together with a wooden lever, chain, and hook, used for the purpose of raising and lowering the stone over the mouth of the vault. Our guide conducted us towards the open orifice, and on looking into it we were shocked at the sight of three dead bodies tumbled one upon the other, perfectly naked on the floor of a large vault below. There was the dead body of a woman, lying at full length on her back: her hands were crossed over her bosom, and a profusion of long black hair streamed wildly over her pallid limbs. One look was enough; but the friends who were with me remarking that they had expected from the description they had heard, to see a much greater number of dead bodies, one of the men belonging to the establishment asked if they would like to look into the vault used the previous day, (a fresh vault being opened every morning.) On their assenting to the proposal, two men immediately moved the wooden lever, hook, and chain, to a distant part of the square, and the hook being attached to a ring fastened to the large stone, which closed up the orifice of the vault, it was quickly raised.

Putting my pocket handkerchief to my nose, I advanced to the brink of the cavity. I saw a confused mass of dead bodies doubled up and huddled one upon another, above which protruded arms, heads, and legs, in wild and horrid confusion. Enormous rats and cockroaches disturbed by the light of day, were seen running in every direction over the remains of the dead, and the rats had already made sad havoc, having actually peeled the skin from the bodies. I hurried away, regretting that I had ever been induced to witness so horrid and revolting a spectacle.

Men, women, and children, are thrown promiscuously together, like so many dogs, into these disgusting vaults. There are three hundred and sixty-six of these places, answering to each day of the year, with one over. Every morning a fresh vault is opened and cleared out; the bones and the mouldering remains are carted away to the vine-yards and corn-fields, and the horrid receptacle is then ready to receive all the dead that the city can furnish within the space of four-and-twenty hours. A great many infants are almost daily brought to the *Campo Santo*, and a friend of mine assures me, that when he visited the spot early in

the morning, a cart-load of infants were shot out upon the pavement, and then tumbled into the vault with a horrifying crash, which nearly smashed them to pieces. Thus they buried their dead!

Nov. 28.—The streets of Naples swarm with beggars; some blind, some on crutches, and some covered with sores. This morning we were surrounded by twenty or thirty, all screaming, "Eccellenza, Eccellenza, un poco di carità." "Per amor del cielo mi dia qualche cosa." Anxious to rid ourselves of the miserable assemblage, we threw some small pieces of coin among them, when a tremendous rush took place, and a furious scramble in the dust. Loud were the shouts and screams, and the quarrelling and wrangling; one unhappy man received a severe slap in the face during the scuffle, and seizing the offender by the hair of the head, with a loud shout of "A me un insulto di questa sorte," he quickly brought him to the ground, when the two began to pinch and buffet one another in admirable style. We were highly amused with the scene; but as those of the beggars who had failed in picking up the money, again gathered round us with low whining cries, and grimaces, we hurried away, and escaped their importunities in the crowded thoroughfare of the Toledo.

The Strada Toledo is more than a mile in length, and runs due north and south from the square in front of the royal palace. It is one of the most disagreeable in the world for the foot passenger, but is, at the same time, most amusing to the foreigner, from the national characteristics it displays. It is constantly thronged with crowds of all grades and conditions, intermingled with carts, carriages, drays, oxen, goats, and bare-headed monks. The noise of wheels and the din of voices are excessive and incessant, and one's attention is constantly distracted by the fear of being run over on the one hand, and of the dexterity of the pickpockets on the other. Overhead, suspended from the windows and balconies, may be seen shirts and gowns hung out to dry; and as the dirty and refuse water of the various establishments is thrown out of the windows into the street, the unhappy pedestrian, unless he keeps a sharp look out, will frequently get an unlucky salute from a high quarter. Near to the houses, on either side, the street is obstructed by trays, pans, and dishes, presiding over which are numerous fat old women recommending them to the attention of the public. Here, in a little wooden pagoda, painted and gilded, erected against the corner of a house, stands a manufacturer of lemonade, who is distributing sundry glasses of his refreshing beverage to the thirsty pedestrians; while there, on the other hand, is a dirty old man frying greasy, disgusting looking sausages over a charcoal fire, attracting the wistful glance of some hungry, ragged scamp, who is watching an opportunity of stealing a pocket-handkerchief, it being the only chance he has for procuring a dinner.

In an open space at the top of the street a sale by auction was proceeding, and numerous dark visages were diligently inspecting bundles of tape and red cotton handkerchiefs, while, a short distance further on, a conjuror was exhibiting his tricks before a staring and wonderstruck audience of ragged boys and dirty men. Under the portico of a house, or in the seclusion of some doorway, may be seen a lean, sallow-visaged individual, seated at a little table, with spectacles on his nose, and pen, ink, and paper before him, while at his elbow stands a man, unable to write himself, dictating a letter to his friend, or some young girl who is

leaning over the shoulders of the interpreter of written language, anxiously catching every syllable that is read from a newly-opened letter just arrived from her lover.

THE GROTTO AND PROMONTORY OF POSILIPPO.

Nov. 29.—This morning we drove through the grotto of Posilippo, a long and very lofty tunnel excavated in the tufo mountain to the west of Naples, originally formed to shorten the road between the city and the bays of Baia and Pozzuoli. It is a place chiefly interesting to us from its antiquity, for we have no account by whom or at what time it was constructed. Strabo and Seneca both give a description of it, and the latter in his epistle says, "*Nihil illo carcere longius, nihil illis faucibus obscurius*"—the truth of the latter part of which observation I have myself frequently experienced when piloting my way on horseback through the dingy obscurity of the place, amid throngs of carriages and mules. It is paved throughout with small stones, and a few miserable lamps are hung at intervals, diffusing around them a dull yellow light just sufficient to "render darkness visible." The rumbling of wheels, the cracking of whips, the crash of carriages and wagons, as they run against one another in the dark, and the shouts and swearing of the drivers, altogether fill the crowded subterranean thoroughfare with the most infernal din and uproar imaginable. On emerging from the dreary obscurity of the grotto at the western end of it, the green trees, the beautiful hills, and the deep blue sky, produce a most magical and cheerful effect upon the mind.

Above the entrance of the grotto, on the side towards Naples, is a lovely secluded spot among the rocks, commanding a most superb view of the deep blue bay and of Mount Vesuvius. The earnest gaze of the traveller, as he casts his eye around upon the glorious prospect, on the bright and glittering city, the bold mountains, and the deep blue waters, is disturbed by the *cicerone*, who draws his attention to an humble structure, something like a limekiln covered with creepers, which he informs him, in a pompous and commanding tone, is "the tomb of Virgil."

There is much to favor and support the confident assertion of the Neapolitan *cicerone*. That the little building is in reality an ancient Roman tomb, is evident from the structure of the interior, the various niches, and the cinerary urns. Donatus, in his life of Virgil, relates that the Roman poet was buried two miles from Naples: "*Inter secundum lapidem in viâ Puteolanâ.*" The via Puteolana is the road which passes through the grotto of Posilippo below, and the tomb is distant exactly two Roman miles from the obelisk of San Domenico Maggiore, which stands on the site of the ancient gate of Neapolis, opening on the via Puteolana.

The promontory of Posilippo is a most delightful region. It forms the western side of the Bay of Naples, and stretches far away into the deep blue Mediterranean, covered with villas, vineyards, and gardens. The magnificent carriage drive, called the Strada Reale, constructed by Murat, runs the whole length of this promontory, and presents to the admiring gaze of the stranger some of the loveliest and most fascinating scenery in the whole world. The city of Naples, with its glittering towers and gloomy castles, the distant Appenines, the deep blue bay, the striking form of Mount Vesuvius, with the light fleecy smoke and

vapour from its burning crater, changing its form and hue every moment, now hovering in a broad cloud, then disappearing, and a moment after assuming a tall columnar shape, with the interest that its every movement excites in the mind of the beholder—all combine to throw a magic interest around the lovely landscape.

Dec. 1.—To one of the numerous villas that adorn this beautiful promontory of Posilippo we proceeded this morning according to invitation, to partake of a *déjeûné à la fourchette*. The gardens of the villa were filled with orange and lemon trees, and immense geraniums; and myrtles and hedges of the Indian fig, bordered the walks. The vines trained from tree to tree, formed a rich canopy of green overhead, and the sweetest roses perfumed the mild and balmy air. We entered a conservatory filled with the choicest exotics. Among them our attention was directed to the banana, the cocoa nut, and the cinnamon tree. On a bold overhanging rock stood a Chinese pagoda, and we descended by long flights of steps, excavated in the tufo rock, to cool grottos and caverns close by the water's edge, amid whose deep recesses the green waves of the sea surged and murmured, dashing the cold spray over our faces.

We were conducted to several fish-ponds and pieces of water filled with immense crabs, whilst beautiful pet fish with delicate blue fins glided about the clear and limpid element. Marble statues adorned these quiet and fascinating retreats, and luxuriant creepers covered the rocks. A more delicious seclusion than that afforded by this villa, and its delightful grounds, I have never yet met with. The lava rocks and the huge fantastic masses of volcanic tufo plunge abruptly into the sea, and among their rugged projections and indentations are formed large hollows, and natural basins of clear blue water of immense depth. The shingly bottom seen far below, and the extreme purity of the water, strongly invite one to bathe, while the murmuring and surging of the slowly moving swell of the sea naturally dispose us to rest and quiet. As we sit under the shade of a projecting rock, or under the shelter of the thickly interwoven branches of numerous creepers, we look abroad, over the trembling blue waves of the expanded gulf, on a beautiful panorama of bold majestic mountains, and on the distant glittering towers, castles, and churches, of the proud city of Naples. The faint tinkling of the convent bells is occasionally heard sweeping gently across the waters; and on a still evening the loud hum of the populous city borne on the wings of the evening breeze, faintly reaches the ear of the attentive listener.

Our worthy host informed us that in excavating his staircases, and in forming the walks through his garden, and over the rocks by the edge of the sea, he had dug up many remains of antiquity. He showed us the head of what must have been a colossal statue of white marble, and also several small coins, which had been found in the mouths of skeletons discovered in small tombs excavated in the rocks.

In the afternoon we entered a boat which had been provided for us by our host, and coasted along the promontory to the ruins of an ancient Roman building, called by the superstitious Neapolitans, *Lo Spirito Santo*. It is reported to be haunted, and strange stories are current among the common people concerning the mysterious spot. This building is in an astonishing state of preservation; the walls are very thick

and strong, and several of the rooms are quite perfect. We observed remnants of Mosaic pavement. The whole building is constructed over immense and very solidly arched vaults filled by the sea. In the centre of each room on the ground floor is a circular orifice, through which the water may be seen at a great depth below. The rooms are long, gloomy, and vaulted, and at the back of the building are staircases and chambers, hollowed out of the earth.

Dec. 5.—This-morning we paid a visit to the celebrated collection of Etruscan vases in the great museum at Naples—a rich treat for an antiquarian. There is a long suit of rooms entirely filled with ancient vases, on which are curious paintings, representing a vast variety of historical and mythological subjects, some understood and some not. As we advanced through the rooms the collection became more valuable, the finest vases of all being placed in the last room. They possess great elegance of form and shape, and the representations and designs painted upon them are striking and well worthy of attention. The figures and outlines are traced with great freedom and grace; they represent ancient usages, customs, and costumes, and also portions of the fables and mythology of ancient Greece. That these Etruscan vases are of very great antiquity, is evident from the circumstance that the ancient Romans, when digging the foundations of Capua, and some other of their cities, are recorded to have discovered tombs containing vases of this description, which they preserved in museums as valuable remnants of remote ages. There are several thousands of Etruscan vases in the collection at Naples, which have been discovered in ancient tombs in various parts of Italy. Among the finest of them is a superb vase representing a Greek festival in honour of Bacchus. It is the festival celebrated at the period, when the amphoræ containing the new wine were first opened for use. At an altar stands a priestess clothed in a deer's skin, and above her head is written in Greek characters, "The Sprinkler." She is so called because she commenced the sacred rites by sprinkling the altar and the sacrificators with sacred water from a cup which she holds high aloft in her outstretched hand. On the opposite side of the vase are four Bacchantes executed in fine style.

The finest vase in the whole collection displays a well preserved representation of "the last night of Troy." Priam is seen seated on the altar, hiding his face with his hands, prepared to receive the stroke of death from Pyrrhus. At his feet lies the dead body of the slaughtered Polites bathed in blood, and seated on the earth is a female figure, supposed to represent Hecuba. Ulysses stretches out his hand as if to raise her from the ground, whilst Diomedes appears to be dissuading him from so doing. Further on we see Cassandra with dishevelled hair clinging to the Palladium, while Ajax, having mortally wounded her lover Coræbus, now threatens her own life. Æneas also is seen in the distance with Pater Anchises on his back, and leading by the hand the boy Ascanius. This vase is valued at an immense price. It was found in an excavation at Nola, not in a tomb, but standing alone, carefully covered with an exterior vase of coarse clay—a circumstance which, together with the inscription, ΚΑΛΟΣ, or "beautiful," discoverable upon it in three places, seems to warrant the opinion that it was very highly esteemed by the ancients.

Adjoining the rooms containing these vases is an apartment wherein are deposited some excellent and highly interesting cork models of the

tombs in which some of the vases were discovered. A skeleton is seen lying on the floor of a small sepulchral chamber, and around it are placed models of the vases in the exact position in which they were originally found.

THE BEGGARS OF NAPLES.

Dec. 8.—Naples is a strange and extraordinary city. Wealth and poverty, wretchedness and comfort, present the most appalling and extraordinary contrasts on every side.

The lazzaroni and beggars that crowd the streets, squares, and all the public walks and thoroughfares, are most disgusting and annoying. If I enter a shop to make a purchase, they hover round the doors, and, on my coming out, they howl after me in the streets. If I am seated at dinner at the hotel of the Victoria, with my windows opening on the sea-beach, they gather in groups around them, screaming for food. When, in the morning, I walk along the Chiaja to enjoy the sea-breeze, a woman rushes up to me with a child in her arms, which she pinches to make it scream, conjuring me, for the love of God, to save herself and her child from starvation, and shortly afterwards an old man with sightless orbs, totters up hat in hand, led by a boy, and implores me, for the sake of every saint he can call to his recollection, to give him money. Has a man lost his hand or received a wound?—is he afflicted with disease, or is his body covered with sores?—he is thrust in our way, during our walks and drives, to attract sympathy and extract money.

The tricks of the Neapolitan beggars are sometimes ingenious, but more generally ridiculously absurd. The other morning I was accosted by a tall, strong-looking man and two boys, who, although dirty and clothed in rags, were the picture of good health. They were each armed with cabbage-stalks, and the moment any one passed, they began to cry and devour the cabbage-stalks with frantic energy, at the same time beseeching and imploring for money to enable them to get a better dinner. For some weeks past there has been a very notorious old fellow with a grey beard, who haunts a particular walk close to the sea-side, and, on seeing well-dressed strangers approach, he tumbles down on the ground, struggling and panting, and quite unable to rise again from exhaustion. A compassionate foreigner, newly arrived, flies to his assistance; he helps him up with his bundle, puts a piece of money into his hand, and leaves the old fellow seated on the rock, chuckling at the success of his experiment.

All sorts of tricks are hit upon by the beggars to attract the sympathy of the numerous strangers who flock to Naples at certain periods of the year. Sometimes a man feigns a sudden fit of illness, and drops down in violent spasms, just before a party of newly-arrived ladies and gentlemen, who are wandering along the shores of the bay. The alarmed company hasten to his assistance, and give a liberal sum of money to two men who approach, cognizant of the cheat, in order that they may convey the invalid to a place of safety. A Neapolitan gentleman lately accompanied a newly arrived party on one of these occasions, and perceiving the beggar rolling in the dust and foaming at the mouth, to the great alarm of all present, he approached him with a riding-whip, and suddenly made so smart an application to the back of the rascal, that the impostor forthwith regained his legs and scampered off, to the admiration and amazement of the whole company.

Dec. 12.—We left Naples this morning, for the purpose of being present at a peasant's wedding, according to invitation. We found the bridal party all assembled and feasting at a villa, the property of the employer of the bridegroom. We were surprised and amused at the jewels and finery displayed about the persons of the peasants. Some of the girls had as many as twenty rings on their fingers, and none less than eight or nine, besides gold chains round their necks, and immense ear-rings, some of elegant pattern. The bridegroom had that morning presented his bride with with jewellery to the amount of two hundred ducats, and the wife's relations had likewise contributed the same amount as a dowry. It is often that these people have not the value of sixpence in the world excepting their jewels, yet will they not part with them. They remain as heir-looms in the family, descending from mother to child, and at each wedding they receive an increase. The costumes of the happy groups assembled at the villa were extremely pretty, and so was the bride; the latter threw bonbons at us, when we mixed among the crowd, and pelted us with flowers.

POMPEII.

Dec. 17.—This morning we visited the gallery of paintings from Pompeii in the great museum of Naples, "Il Museo Borbonico," within those walls are enshrined the valuable relics from the disinterred cities of Pompeii and Herculaneum, and from Nola, Pæstum, Capua, &c. &c. The colours of these paintings are astonishingly fresh, and many of the designs possess great originality and genius. They afford an admirable and interesting illustration of ancient manners and customs, and of the mode of life of the citizens of Pompeii. The female figures possess a grace and elegance of form and attitude quite bewitching; the best of them have their names written over their heads—Latona, Niobe, Hilaria, Aglaia, &c., &c. The handsome bracelets, the rich necklaces, and the golden net-work which adorn the persons of some of the ladies, give us an idea of the wealth and luxury of the Pompeians; and the numerous representations of feasts, dances, games, and other amusements, plainly demonstrate that they were a people much given to pleasure. The dancers are represented in attitudes full of vivacity and expression, some of which bear a resemblance to the gestures of the dancers in the Neapolitan national dance of the Tarantella. Airy nymphs and beauteous damsels, beating tambourines, or waving garlands of flowers, attract our admiration; while others, enveloped in light gauze dresses and thin waving robes, appear floating gracefully in the liquid air. Among these curious paintings are numerous historical representations. Briseis is depicted being snatched from the arms of Achilles, to be carried to the tent of Agamemnon; Medusa meditating the murder of her two infants; Theseus in Crete, &c. &c.

There are also numerous interesting domestic subjects. Shoemakers, bakers, and various handicraftsmen, are seen exercising their different trades. There is the representation of a school-room, in which the school-master is flogging a boy, and of a cobbler's stall, where the knights of the leather may be seen diligently exercising their valuable avocations. There are also architectural designs, landscape paintings, representations of gardens, villas, &c. In the middle of the gallery is one of the pilasters which flanked the fountain of the fuller's shop at Pompeii. On the side of it is a painting, representing the mysteries of the fuller's art, and

the various appliances of the trade. Just beyond is a glass case, containing a portion of the mass of ashes and cinders which covered the young female whose skeleton was found in the vault under the house of Diomed. The impression left by the arm, neck, and bosom of the girl, still remains wonderfully preserved in the hardened ashes!

EGYPT AS IT IS.

FROM A CORRESPONDENT OF THE TIMES IN SYRIA.

The boasted civilization which Mehemet Ali has introduced into the countries under his sway is entirely superficial, and has no origin whatever in any real improvement or amelioration in the condition, or for the benefit of their respective populations; and the reason why a contrary impression has so generally prevailed amongst late travellers is as follows:—When travellers arrive at Alexandria, and more particularly those of name or rank, they immediately fall into the hands of a set of clever persons, some of them consuls, who having either made their fortunes by the Pacha, or having them to make, leave no effort unemployed to impress them with favourable opinions of his government. They are then presented at the Divan, where, instead of a reserved austere looking Turk, they find a lively animated old man, who converses freely and gaily with them, talks openly of his projects to come, and of his past life, tells them that he is glad to see them, and that the more travellers that pass through Egypt the better he is pleased: that he wishes every act of his government and institutions to be known and seen, and that the more they are so, the better will he be appreciated. He then turns the conversation to some subject personal to them, for he is always well informed of who and what they are, and what they know, and at last dismisses them with an injunction to visit his establishments with care, and to let him know their opinion of them on their return; and if they happen to be persons of distinction he offers them a cavass to accompany them on their journey. All this is done in a simple pleasing manner, which can hardly fail to captivate when coming from so remarkable a man. *Endoctrinés* by the clique and won by the Pacha, they proceed on their journey to Cairo, where the delusion begun at Alexandria is completed; for travelling through the country is now easy, and comparatively safe to what it was, and establishments of various kinds, such as polytechnic schools, schools of medicine and general instruction, and manufactories, have been formed in Cairo and those parts of the country which are most frequently visited. These are under the direction of foreigners, chiefly Frenchmen, and are open to those who choose to visit them; consequently, as the greater portion of travellers seek for sights more than instruction, these gentlemen, won at Alexandria, and delighted at the facility of their journey from that place, and then flattered at the open manner in which the various establishments above alluded to are shown them by those whose interest it is to give a favourable impression of the government, neither turn to the right nor the left from the beaten track, but, judging of what they do not see by that which is purposely prepar-

ed to be shown them, return to Europe, and on grounds such as I have above described, and without looking an inch beneath the surface, proclaim the Pacha the civiliser and regenerator of Egypt. How far such is the case you will be able to judge from what follows, in which there is no exaggeration. The journey I made extended up to the second cataract on the Nile, through Egypt and Nubia, and then through Palestine, the whole of Syria, and the Libanus. I consequently visited very nearly all the countries under the domination of Mehemet Ali, and as I did not allow myself to be influenced at Alexandria, and missed no occasion of informing myself of the state of things whilst on my journey, I may fairly say that I can give an unbiassed opinion as to what is going on in that unhappy part of the world.

In Egypt the whole of the land belongs to the Pacha; besides himself there is no landed proprietor, and he has the absolute monopoly of every thing that is grown in the country. The following is the manner in which it is cultivated:—Portions of land are divided out between the fellahs of a village, according to their numbers—seed, corn, cotton, or other produce is given to them; this they sow and reap, and of the produce 75 per cent. is immediately taken to the Pacha's despots. The remaining 25 per cent. is left them, with, however, the power to take it at a price fixed by the Pacha himself, and then resold to them at a higher rate. This is generally done, and reduces the pittance left them about 5 per cent. more; from this they are to pay the capitation tax, which is not levied according to the real number of the inhabitants of a village, but according to numbers at which it is rated in the government books; so that in one instance with which I was acquainted a village originally rated at 200, reduced by the conscription to 100, and by death or flight to 40, was still obliged to pay the full capitation; and, when I went there 26 of the 40 had been just bastinadoed to extort from them their proportion of the sum claimed. After the capitation comes the tax on the date trees, raised from 30 to 60 paras by the Pacha, and that of 200 piasters a year for permission to use their own water wheels, without which the lands situated beyond the overflow of the Nile, or too high for it to reach, would be barren. Then comes an infinity of taxes on every article of life, even to the cakes of camels' dung, which the women and children collect and dry for fuel, and which pay 25 per cent. in kind at the gate of Cairo and the other towns. Next to the taxes comes the *corvée* in the worst form, and in continual action; at any moment the fellahs are liable to be seized for public works, for the transport of the baggage of the troops, or to track the boats of the government or its officers, and this without pay or reference to the state of their crops.

When Mehemet Ali made his famous canal from Alexandria to the Nile, he did it by forcibly marching down 150,000 men from all parts of the country, and obliging them to excavate with their hands, as tools they had not, or perhaps could not be provided. The excavation was completed in three months, but 30,000 men died in the operation. Then comes the course of the conscription, which is exercised in a most cruel and arbitrary manner, without any sort of rule or law to regulate it. An order is given to the chief of a district to furnish a certain number of men; these he seizes like wild beasts wherever he can find them, without distinction or exemption, the weak as well as the strong, the sick as well as those in health; and, as there is no better road to the Pacha's favour than showing great zeal in this branch of the service, he, if possible

collects more even than were demanded. These are chained, marched down to the river, and embarked amidst the tears and lamentations of their families, who know that they shall probably never see them again; for change of climate, bad treatment, and above all despair, cause a mortality in the Pacha's army beyond relief; mutilation is now considered an exemption, and the consequence of the system is, that from Assouan, at the first cataract, to Aleppo, you, literally speaking, never see a young man in a village, and such is the depopulation, that if things continue as they now are for two years more, and the Pacha insists on keeping up his army to its present force, it will be utterly impossible for the crops to be got in, or for any of the operations of agriculture to be carried on.

The whole of this atrocious system is carried into action by the cruellest means—no justice of any sort for the weak; no security for those who are better off: the bastinado and other tortures applied on every occasion, and at the arbitrary will of every servant of the government. In addition to this, the natives of the country are rarely employed—never in offices of trust—and the whole government is entrusted to Turks. In short, the worst features of the Mameluke and Turkish rules are still in active operation, but the method of applying them is much more ingenious, and the boasted civilization of Mehemet Ali amounts to this—that being beyond doubt a man of extraordinary talents, he knows how to bring into play the resources of the country better than his predecessors did, but, like them, entirely for his own interest, and without any reference to the well being of the people; and that with the aid of his European instruments he has, if I may so, applied the screw with a master hand, and squeezed from the wretches under his sway the last drop of their blood.

Such I pledge my word to you is the state of these two countries. Syria is perhaps the worst off of the two; for the Egyptians, used to oppression, bear it without a struggle; whilst the Syrians, who had been less harshly treated in old times, writhe under and gnaw their chain.

In looking over my letter, I find that I have omitted to mention the financial operations of Mehemet Ali in Syria; these are nearly the same as in Egypt. He is not, it is true, master, or rather proprietor, of the entire soil, as he is in that country, but both he and his son Ibrahim have taken for themselves large tracks of land, and of the best in the country, by the process of confiscation; and the *ferde* or capitation tax, the power of taking all produce at their own price, and selling it back at an advanced one, and the *corvée* have been introduced from Egypt. In addition to this, the taxes before collected and paid to the Porte, have been raised from 11,000 to 20,000 purses, and the conscription with all its rigour been put in force; the Christians are obliged to pay the *ferde* as well as the old *haratch*, and consequently pay two capitation taxes.

ADVENTURE OF A RANGER.

We do not know that we can fill a few pages more profitably, than by relating an adventure of our neighbor and friend Mr. Thomas Higgins, as we have heard it from his own mouth. He resides within a few miles

of Vandalia, and receives a pension from the United States, for his services. The following statement may be relied upon, for Mr. Higgins is a man of strict veracity; his companions have corroborated his narrative, and his wounds afford ample proof of his courage and sufferings.

Tom Higgins, as he is usually called, is a native of Kentucky, and is one of the best examples extant of the genuine backwoodsman. During the last war, at the age of nineteen, he enlisted in the *Rangers*, a corps of mounted men, raised expressly for the protection of the western frontiers. On the 30th of August, 1814, he was one of a party of 12 men, under the command of Lieutenant Journey, who were posted at Hills Station, a small stockade, about eight miles south of the present village of Greenville, and something more than twenty miles from Vandalia. These towns were not then in existence; and the surrounding country was one vast wilderness. During the day last mentioned, "Indian signs" were seen about half a mile from the station, and at night the savages were discovered prowling near the fort, but no alarm was given. On the following day, Mr. Journey, moved out with his party in pursuit of the Indians. Passing round the fence of a corn-field, adjoining the fort, they struck across the prairie, and had not proceeded more than a quarter of a mile, when in crossing a small ridge, which was covered with a hazel thicket, and in full view of the station, they fell into an ambuscade of the Indians, who rose suddenly round them, to the number of seventy or eighty, and fired. Four of the party were killed, among whom was Lieutenant Journey; one other fell, badly wounded, and the rest fled, except Higgins.

It was an uncommonly sultry morning; the day was just dawning; a heavy dew had fallen the preceding night; the air was still and humid, and the smoke from the guns hung in a heavy cloud over the spot. Under the cover of this cloud, Higgins' surviving companions had escaped, supposing that all that were left were dead, or that at all events it would be rashness to attempt to rescue them from so overwhelming a force. Higgins' horse had been shot through the neck, and fell to his knees and rose again, several times. Believing the animal to be mortally wounded, he dismounted, but finding that the wound had not greatly disabled him, he continued to hold the bridle; for as he now felt confident of being able to make good his retreat, he determined to fire off his gun before he retired. He looked round for a tree. There was but one, a small elm, and he made for this, intending to shoot from behind it, but at this moment the cloud of smoke rose partially from before him, disclosing to his view a number of Indians, none of whom discovered him. One of them stood within a few paces, loading his gun, and at him Higgins took a deliberate aim and fired, and the Indian fell. Mr. Higgins, still concealed by the smoke, re-loaded his gun, mounted, and turned to fly, when a low voice near him hailed him with, "Tom, you wont leave me?"

On looking round, he discovered the speaker to be one of his own companions, named Burgess, who was lying wounded on the ground, and he replied instantly, "no, I'll not leave you; come along, and I'll take care of you."

"I can't come," replied Burgess, "my leg is smashed all to pieces."

Higgins sprung from his saddle, and picking up his comrade, whose ankle bone was broken, in his arms, he proceeded to lift him on his horse, telling him to fly; and that he would make his own way on foot. But the horse taking fright at this instant, darted off, leaving Higgins,

with his wounded friend, on foot. Still the cool bravery of the former was sufficient for every emergency, and setting Burgess down gently, he told him, "now, my good fellow, you must hop off on your three legs, while I stay between you and the Indians, and keep them off"—instructing him at the time to get into the highest grass, and crawl as close to the ground as possible. Burgess followed his advice, and escaped unnoticed. History does not relate a more disinterested act of heroism, than this of Higgins; who, having in his hands the certain means of escape from such imminent peril, voluntarily gave them up, by offering his horse to a wounded comrade; and who, when that generous intention was defeated, and his own retreat was still practicable, remained, at the hazard of his life, to protect his cripple friend.

The cloud of smoke, which had partially opened before him, as he faced the enemy, still lay thick behind him, and as he plunged through this, he left it, together with the ridge, and the hazel-thicket, between him and the main body of the Indians, and was retiring unobserved by them. Under these circumstances, it is probable that if he had retreated in a direct line towards the station, he might easily have effected his escape, but Burgess was slowly crawling away in that direction, and the gallant Higgins, who coolly surveyed the whole ground, foresaw, that if he pursued the same track, and should be discovered, his friend would be endangered. He therefore took the heroic resolution of diverging from the true course so far, as that any of the enemy who should follow him, would not fall in with Burgess. With this intention he moved stealthily along through the smoke and bushes, intending when he emerged to retreat at full speed. But as he left the ticket he beheld a large Indian near him, and two others on the other side, in the direction of the fort. Tom coolly surveyed his foes, and began to chalk out his track; for although in the confidence of his own activity and courage, he felt undismayed at such odds, yet he found it necessary to act the *general*. Having an enemy on each flank, he determined to separate them, and fight them singly. Making for a ravine, which was not far off, he bounded away, but soon found one of his limbs failed him, having received a ball in the first fire, which, until now he scarcely noticed. The largest Indian was following him closely. Higgins several times turned to fire, but the Indian would halt and dance about to prevent him from taking aim; and Tom knew that he could not afford to fire at random. The other two were closing on him, and he found that unless he could dispose of the first one, he must be overpowered. He therefore halted resolved to receive a fire; and the Indian at a few paces distant, raised his rifle: Higgins watched his adversary's eye, and just as he thought his finger pressed the trigger, suddenly threw his side to him. It is probable that this motion saved his life, for the ball entered his thigh, which would have pierced his body. Tom fell, but rose again, and ran, and the largest Indian, certain of his prey, loaded again, and then with the two others pursued. They soon came near. Higgins had again fallen, and as he rose, they all three fired, and he *received all their balls*. He now fell and rose several times, and the Indians, throwing away their guns, advanced on him, with spears and knives. They frequently charged upon him, but upon his presenting his gun at one or the other, they fell back. At last, the largest one, thinking probably from Tom's reserving his fire so long,

that his gun was empty, charged boldly up to him; and Higgins, with a steady aim shot him dead.

With four bullets in his body, with an empty gun, two Indians before him, and a whole tribe but a few rods off, almost any other man would have despaired. But Tom Higgins had no such notion. The Indian whom he had last slain was the most dangerous of the three; and he felt little fear of the others. He had been near enough to see their eyes, and he knew human nature sufficiently to discover, that he was their superior in courage. He therefore faced them, and began to load his rifle. They raised a whoop, and rushed on him. "They kept their distance as long as my rifle was loaded," said he, "but now, when they knew it was empty, they were better soldiers. A fierce and bloody conflict ensued. The Indians rushed upon Tom, stabbed him in many places, but it happened, fortunately, that the shafts of their spears were thin poles, rigged hastily for this occasion, which bent whenever a point struck a rib, or encountered the opposition of one of Higgins' tough muscles. From this cause and the continued exertion of his hand and rifle in warding off their thrusts, the wounds thus made were not deep, but his whole front was covered with gashes, of which the scars yet remain in honorable proof of his valour. At last one of them threw his tomahawk; the edge sunk deep in Higgins' cheek, passed through his ear, which it severed, laid bare his skull to the back of his head, and stretched him on the plain. The Indians rushed on; but Tom instantly recovered his self-possession, and kept them off with his feet and hands, until he succeeded in grasping one of their spears, which, as the Indian attempted to pull it from him aided him to rise, and clubbing his rifle, he rushed upon the nearest of his foes, and dashed his brains out, in doing which, he broke the stock to pieces, retaining only the barrel in his hand.

The other Indian, however warily he had fought before, now came manfully into battle. It is probable that he felt his character as a warrior at stake. To have fled from a desperately wounded man almost disarmed, or to have suffered his victim to escape, would have tarnished his manhood. Uttering a terrific yell, he rushed on, attempting to stab the exhausted ranger, while the latter warding off the spear with one hand, brandished his rifle barrel in the other. The Indian, unwounded, was now by far the most powerful man; but the moral courage of our hero prevailed, and the savage unable to bear the fierce glance of his untamed eye, began to retreat slowly towards the place where he had dropped his rifle. Tom knew that if the Indian recovered his gun, his own case was hopeless; and throwing away his rifle barrel, he drew his hunting knife, and rushed in upon him. A desperate strife ensued, and several deep gashes were inflicted; but the Indian succeeded in casting Higgins from him, and ran to the spot where he had thrown down his gun, while Tom searched for the gun of the other Indian. Thus the two, bleeding and out of breath, were both searching for arms to renew the conflict.

By this time, the smoke which lay between the combatants and the main body of the Indians, had passed away, and a number of the latter having passed the hazel thicket, were in full view. It seemed, therefore as if nothing could save our heroic ranger. But relief was at hand. The little garrison at the station, six or seven in number, had witnessed the whole of this remarkable combat. There was among them a heroic woman, a Mrs. Pursley, who, when she saw Higgins contending singly with

the foe, urged the men to go to his rescue. The rangers at first considered the attempt hopeless, as the Indians outnumbered them ten to one. But Mrs. Pursley declaring that so fine a fellow as Tom should not be lost for want of help, snatched a rifle out of her husband's hand, and jumping on a horse, sallied out. The men, who would not be outdone by a woman, followed, full gallop, towards the place of combat. A scene of intense interest ensued. The Indians at the thicket had just discovered Tom, and were rushing down towards him with savage yells—his friends were spurring their horses to reach him first, Higgins, exhausted with loss of blood, had fallen and fainted—while his adversary, too intent on his prey to observe any thing else, was looking for a rifle. The rangers reached the battle ground first. Mrs. Pursley knew Tom's spirit, thought he had thrown himself down in despair for the loss of his gun, and tendered him the one she carried; but Tom was past shooting. His friends lifted him up, threw him across a horse before one of the party, and turned to retreat just as the Indians came up. They made good their retreat, and the Indians retired.

We repeat this adventure just as it was related to us, and have not the smallest doubt that it is literally correct; or as nearly so as Mr. Higgin's opportunities for observation would admit: for as he very properly observes, he was in a desperate bad fix just about that time, and it was a powerful bad chance for a man to take notice of what was going on around him.

After being carried into the fort, he remained insensible for some days, and his life was preserved with difficulty by his friends, who extracted all the bullets but two which remained in his thigh; one of which gave him a great deal of pain for several years, although the flesh was healed. At length he heard that a physician had settled within a day's ride of him, whom he went to see. The physician was willing to extract the ball, but asked the moderate sum of fifty dollars for the operation. This, Tom flatly refused to give, as it was more than half a year's pension. As he rode home, he turned the matter in his mind, and determined upon a cheaper plan. When he reached his home, he requested his wife to hand him a razor. The exercise of riding had so chafed the part, that the ball, which usually was not discoverable to the touch, could be felt. With the assistance of his help-mate, he very deliberately laid open his thigh, until the edge of the razor touched the bullet, and inserting his two thumbs into the gash, "flirted it out," as he assured us, "without costing a cent."—The other ball remains in his limb yet, but gives him no trouble, except when he uses violent exercise. He is now one of the most successful hunters in the country, and it still takes the *best of men* to handle him.

THE WAGS.

In a town which we will call Middletown, because it was of the middle size, dwelt a worthy shop-keeper bearing the odd name of Jeremiah Wag. By dealing in all sorts of commodities, and steady

attention to his business, he had managed to keep up his respectability, and doubtless would have considerably increased his store, but for the gradual increase of his family. For several years after his marriage a new little Wag was ushered annually into the world; and though there had latterly been somewhat less of regularity, as many as ten small heads might be counted every evening in his back parlour. Jerry, the eldest boy, was, however, almost fourteen years of age, and thereofre began "to make himself useful," by carrying out small parcels and assisting behind the counter. All the rest were, to use their parent's phrase, "dead stock," and "were eating their heads off;" for, sooth to say, they were a jolly little set, and blest with most excellent appetites. Such was the state of family matters at the time when our narrative commences.

Now, on the opposite side of the street, exactly facing the modest board on which Jeremiah's name was painted, with the usual announcement of certain commodities in which he dealt, was another board of a very different description. On it were emblazoned the arms of his Majesty, with the supporters, a lion and a unicorn, as the country folks said, "a-fighting for the crown."

The establishment indicated by this display, was upheld by a very different class of customers to that which patronised the shop. Two or three times in each day some private carriage or post-chaise would stop to change horses at the King's Arms, and occasionally "a family" took up their quarters there for the night; but the latter was a piece of good-luck not often to be expected, as there were no lions to be seen in Middletown save the rampant guardian on the sign-board.

It was hay-making time, and business was very "slack" with the worthy Jeremiah; but he said that he didn't care much about it, as the country folks were earning money, part which he trusted would find its way into his till in due course. So, after rummaging about among his stock to see if he was "out of any thing," he took his stand at the door, just to breathe a mouthful of fresh air. Titus Twist, the landlord, made his appearance at the same moment, in his own gateway, apparently with the same salubrious intent, and immediately beckoned to his neighbor just to step across.

"Well, how are ye, Master Wag?" said he, when they met. "Did you observe that green chariot that stands down in the yard there, and came in more than an hour ago?" Jeremiah answered in the negative. "Well," continued mine host, "it belongs to one of the oldest, rummest, little old gentleman I ever clapped my eyes on. He's been asking me all sorts of questions, and seems mightily tickled with your name above all things. I think he's cracked. Howsomever, he's ordered dinner; but hush! here he comes."

The little gentleman in question seemed between sixty and seventy; but, excepting a certain sallowness of complexion, carried his years well, his motions being lively, and wearing a good-humored smile, as though habitual, on his countenance. His dress was plain, but good, and altogether becoming his apparant rank.

"I shall be back in a quarter of an hour," said he to the landlord; "I'm only going over the way to the shop to buy something; and away he went, and, of course, was followed by Jeremiah, who, immediately on entering his own house, skipped nimbly behind the counter to wait upon his new customer.

After trying on some gloves, and purchasing two pair, the little strange gentleman looked round the shop, as though examining its contents to find something he wanted.

"Any thing else I can do for you, sir?" replied Jeremiah. "You sell almost every thing I see, Mr. Wag?" observed the old gentleman. "Mr. Wag? *Your name is Wag*, I suppose?" "Yes, sir," replied the shop-keeper, dryly.

"Wag, Wag, Wag!" repeated the stranger, briskly, "Funny name! eh?" "It was my father's before me," observed Jeremiah, scarcely knowing what to think of the matter.

"Very good name!" continued the little gentleman, "Like it very much. Got any children? Any little Wags, eh? Like to see 'em. Fond of children—little Wags in particular—he, he, he!"

"Much obliged to ye for enquiring, sir," replied the senior Wag; "I've got just half a score, sorted sizes. That's the eldest!" and he pointed to young Jerry, whose lanky limbs were at the moment displayed, spread eagle fashion, against the shelves, from the topmost of which he was reaching down some commodity for a customer.

"That's right. Bring 'em up to industry," said the little gentleman. "Well, I can't stay now, because my dinner's ready; but I see you sell Irish linen, and I want a piece for shirts; so, perhaps, you'll be so good as to look me out a good one and bring it over to me."

"You may rely," commenced Mr. Wag; but this new customer cut him short by adding, "I know that well enough," as he briskly made his exit.

The industrious shop-keeper forthwith selected certain of his primest articles, folded them in a wrapper, and, at the appointed time, carried the whole across to the King's Arms.

He was immediately ushered into the presence of the eccentric elderly gentleman, who was seated alone behind a bottle of white and a bottle of red. "Suppose you've dined, Master Wag?" said he, "So, come! No ceremony, sit down and take a glass of wine."

"I'm very much obliged to you, I'm sure, sir," replied Jeremiah; "but I have just brought over half a dozen pieces of Irish for you to look at and choose."

"Phoo, phoo!" Quoth the small stranger, "I don't want to see them. I know nothing about 'em. Leave all to you. Only meant to have had a piece; but, as you have brought half a dozen, I may as well take 'em. 'Store's no sore,' they say. There's a fifty pound note! Reckon 'em up, and see if there's any change."

Jeremiah stared at this unusual wholesale mode of dealing, stammered his thanks, and observed, that the goods would not amount to half the money.

"So much the worse," said the little gentleman. "Must see if I can't buy something else in your line presently; but, sit down now: that's a good fellow! I want to have some talk with you."

The bashful shop-keeper hereupon perched himself on the extreme front edge of a chair, at a respectful distance from the table; but was told to draw up closer by his hospitable entertainer. Then they took three or four glasses of wine together, and gradually Jeremiah found himself more at home, and scrupled not to reply to the odd stranger's questions respecting his family and occupations. And so they went on chatting till they appeared as two very old and intimate friends; for Mr. Wag was

of an open, unsuspecting disposition, and talked as though he had no objection that all the world should know all about his affairs.

"Well, but, my dear Wag," said the stranger, "can't you tell what part of the country your father came from?"

"No, sir, I can't," replied Jeremiah, "he died when I was about eight years old, and the London merchant to whom he was clerk, put me to school, and after that apprenticed me to old Hicks, who lived over the way where I do now. Well, there I served my time, and then married his daughter, and so came in for the business when he died; but I've increased it a pretty deal, and if I'd more capital, could make a snug thing of it by going into the wholesale, and serving village shops with grocery, and so on.

"Why don't you try it?" asked the little gentleman.

"It won't do unless one has got the *ready* to go to market with," replied Jeremiah, knowingly; and then one must be able to give credit, and ought to keep one's own wagon to carry out goods. No, no, it won't do. Many a man has made bad worse by getting out of his depth, and, as it is, thank God, I *can live*. The only thing that puzzles me now and then is, what I shall do with all the children."

"Hark ye, my worthy Wag," said the odd stranger, "I have not got any children; so, if you'll let me pick among the lot, I don't care if I take two or three off your hands.

"Sir!" exclaimed the astonished shop-keeper.

"I mean what I say," replied the old gentleman, demurely. "Take me with you. Introduce me to your wife and family, and let us have a friendly cup of tea together in your back parlor. Don't stare my good Wag; but fill your glass. I don't want to buy your little Wags, but I happen to have more of the ready as you call it, than I want; so I'll put them to school, or what you like. What you say?"

Jeremiah rubbed his eyes, as though doubtful if he were awake, and then uttered his thanks for such extraordinary kindness in the best way he was able; and, about an hour after, the whimsical little old rich gentleman was sitting by the side of Mrs. Wag, with a little curly-headed Wag on each knee, while the rest were playing round, or gazing open-mouthed at the stranger with childish wonder.

By degrees all stiffness wore off; and before the evening concluded, nothing could exceed the merriment of the whole party. The eccentric elderly gentleman had learned to call all the Wags by their names, and he played, and frolicked, and rolled upon the floor with the little people, in a style that made the parents suspect, with the landlord, that he must be "cracked."

However, at parting, he became more serious, and invited Jeremiah to come and breakfast with him in the morning, and to bring with him a copy of the names and birthdays of his children, as entered in the Family Bible. Mr. and Mrs. Wag of course lay awake for an hour that night, talking over the strange incidents of the day, and perhaps building a few castles in the air, after the style of affectionate parents for their children.

On the following morning Jeremiah dressed himself in his Sunday suit, and repaired to fulfil his engagement. His new old friend received him in the most cordial manner, and they breakfasted together, chatting over family concerns as on the preceding day. When their repast was ended, the little gentleman read over the list of the young Wags, and

smilingly observed, "A jolly set of them! We must contrive to make them all good and happy Wags if we can, eh? Eldest, Jerry, almost fourteen—useful to you in business. That's right. Leave him there, eh? Next, Thomas, almost thirteen—fond of reading—told me so. A good school first, eh? Then three girls running, Mary, Anne, and Fanny. Pack them off to a good school to. Never mind. Then comes William, eight—and Stephen, seven. Think I know where to place them—just the right age. Perhaps can't do it at once, though. Humph. That's all I can take *at present*. The other three, Sarah, Henry, and Philip, too young. Well, my worthy Wag, you will hear about what I mean to do with them before long, and a friend of mine will call upon you some day to consult about the best way of increasing your business. Settle all in time. No more to say now, but good-bye—eh? Paid the landlord's bill before breakfast, cause don't like to be kept waiting. Did n't mean to have stopped longer than to change horses when I came yesterday. Glad I have though. Hope you won't be sorry. Holla! waiter! is my carriage ready?" "At the door, sir," shouted the landlord in reply. "That's right!" exclaimed the extraordinary elderly gentleman. "Good-bye, my worthy Wag! Remember me to Mrs. Wag, and give my love to all the little Wags. Ten besides yourselves! A dozen Wags in one family! Never expected to see such a sight as that! He, he, he! See it again, though, hope. Wag together, all of you, like a bundle of sticks, hope!" And, laughing and uttering similar incoherent sentences alternately, he walked briskly along the passage to his carriage, into which he forthwith jumped, and, having repeated his valediction to the astounded shop-keeper, ordered the postillion to drive on.

Thus Jeremiah was prevented from expressing his grateful feelings for such wonderful promises, and so stood gaping in silence till the carriage was out of sight.

"Why, you seem regularly 'mazed, neighbor?" exclaimed the landlord.

"Enough to make me," replied Mr. Wag. "If one-half what I've heard this morning should come true, I shall be a lucky fellow, that's all!"

"The fellow's cracked," observed Titus Twist. "He's a gentleman, however, every inch of him, that I will say for him. Did n't make a word about nothing. All right. Used to good living, no doubt. More's the pity, as he's cracked. He certainly ought not to be allowed to travel without a servant, as he does."

"Well," observed Jeremiah, "I do n't know what to say or what to think about it; but, if he is cracked—humph! I do n't know. It may be so. However, there's no harm done yet."

"So he's been cramming you, eh!" said mine host. "Made you a present of the moon, perhaps? They do fancy strange things, and think themselves kings, and very rich in particular."

The truth of this latter assertion made an impression upon our worthy shop-keeper, who communicated it to his wife; but she had taken a great fancy to the odd old gentleman, and was not to be shaken in her conviction that he would really be "as good as his word."

"Well," observed her husband, "time will show; and, at all events, it was no bad thing to sell six pieces of fine linen at once. We do n't have such customers every day. However, the best thing we can do is,

to keep our own secret ; for, if the neighbors were to hear it, we should never hear the last of it."

Mrs. Wag agreed in the propriety of her spouse's suggestion ; but, nevertheless, was made to refrain from dropping hints to certain gossips concerning her anticipations of coming good fortune ; and the vagueness and mysterious importance of her manner created a sensation, and caused many strange surmises. Some decided that the Wags had been so imprudent as to purchase a whole lottery ticket, and blamed them accordingly ; while others shook their heads, and hinted that, with so large a family, it would be a very fortunate circumstance if Jeremiah could manage so as not to go back in the world ; and, for their parts, they never liked to hear folks talk mysteriously about good luck ; so, for some time, the stranger's visit appeared to have produced results somewhat the reverse of beneficial ; but, at the end of a month, an elderly gentleman, dressed in black, entered the shop, and requested a private interview with Mr. Wag ; and as the back parlor was full of little Wags, then undergoing the ceremonies of ablution, combing, &c., he proposed that they should adjourn to the King's Arms.

When they were seated there, the stranger very deliberately proceeded to arrange a variety of papers upon the table in a business-like manner ; and when his task was completed, apparently to his satisfaction, he smiled, rubbed his hands, and thus addressed the wondering shop-keeper :

"My name is Stephen Goodfellow. I am an attorney, living in London, and there" (handing a card) "is my address. You will probably guess who is my client, but my instructions are to conceal his name. Well, he has consulted with me as to the best mode of carrying your intention of increasing your business into effect, and I have, consequently, had interviews with certain commercial gentlemen, and, ahem ! the result is, that as the thing must be done gradually, I have to present you, in the first place, with this order for a thousand pounds. You will then be so good as to sign this document, by reading which you will perceive that you *cannot* be called upon for repayment before the expiration of three years. Ahem ! do n't interrupt me. That will do to begin with ; but, after a little while, as you must give credit, and some of your commodities, especially grocery, amount to considerable sums, you may want more, so—ahem !—yes, this is the paper. You are to put your usual signature here ; and, mark me, in precisely six months from this date, an account will be opened in your name with the London bankers, whose check-book I now present you with. They will have assets in their hands and instructions to honor your drafts for any sum or sums not exceeding four thousand pounds. You understand ?"

"I hear what you say, sir," stammered Jeremiah ; "but, really, I'm so astonished, that"—

"Well, well," observed Mr. Goodfellow smiling, "it certainly is not an every-day transaction ; but my respected client is a little eccentric, and so we must allow him to do things in his own way. He has taken a fancy to you, that's clear ; and when he takes any thing in hand, he does n't mind trifles."

"But so much !" exclaimed Mr. Wag. "One thousand—four thousand—five thousand pounds ! It is like a dream ! Surely, sir," and he hesitated ; "surely the gentleman can't be in—ahem !—in—his—right senses !"

"Sound as a bell," replied the lawyer. "I hope you may have as clear a head to carry on your new business. At present you are a little bewildered, that's plain enough; but no great marvel. However, my time is precious, so just let me have your signature, and I'm off."

He then placed the papers before Jeremiah, who, after a little more demur, and a great deal of trepidation, wrote his name twice, and received the money order and the banker's check-book. Mr. Goodfellow then ordered a chaise, and chatted familiarly till it was ready, when he shook Mr. Wag by the hand, wished him good luck, and departed.

"I told you so!" exclaimed Mrs. Wag, when her spouse related the morning's adventure. "He seemed so fond of the children. I knew how it would be. But you should have asked his name. I wonder who he can be! Some great Lord, no doubt. Well, bless him, I say! God bless him, whoever he is. Oh, Jerry! my dear Jerry Wag! I feel as if I was a-going to cry. How foolish! Well, I can't help it, and that's the truth;" and the good house-wife wiped her eyes, and then threw her arms round the neck of her dearly beloved Wag, who, albeit that he was unused to the melting mood, found his eyes suddenly grow dim, and so they performed a weeping duet together.

It is pleasant to record, that at the termination of this natural paroxysm, they neglected not to return thanks to a higher power for the wonderful change that had thus suddenly taken place in their prospects.

Their subsequent task was to take counsel together; but that was a work requiring more of calmness than they possessed for the first few days. However, by degrees, as time rolled on, the industrious couple made their arrangements, and, at the end of six months, Mr. Wag had so increased his business, that it became advisable for him to have recourse to his London bankers. In the meanwhile, he had sent his son Tom and the three eldest girls to school, agreeably to the intimation of his unknown friend, which he considered as a command that he was in duty bound to comply with. Still it appeared very extraordinary that the little elderly gentleman neither communicated with nor came to see them; but, as the whole affair was out of the common way, Jeremiah resolved industriously to avail himself of the advantages of his new position, as the best means of testifying his gratitude during his benefactor's absence.

Much marvelling, of course, there was in the town and neighborhood at the steady increase in Mr. Wag's "concern," in spite of his very plain statement that a kind friend had advanced him a considerable sum.

"Who could that friend be?" was the puzzling question which no one could answer; but his unremitting attention to business, the punctuality of his payments, and other evidences of his prosperity, sufficed to ensure him general respect, though certain envious busybodies would venture now and then to hint significantly that "all is not gold that glistens."

So matters went on pleasantly with the Wags till winter, when Tom and his three sisters came home for the holydays, and the latter assisted their mother in preparing for the festivities of the season.

[TO BE CONTINUED.]

SCENES FROM THE DRAMA OF HISTORY.

SCENE II.—COPENHAGEN.

[CONTINUED FROM PAGE 574.]

THERE was uproar in Copenhagen. Everywhere were seen citizens concealing their valuables, families embarking at the harbour, soldiers and burghers dragging cannon from the ships and arsenals, or repairing the ruined fortifications.

Now and then a mounted trooper came dashing through the city gates, just checking his headlong speed one moment, to give the pass-word, and then onward to the palace; for there, in the open space before the royal chateau, a dense multitude was gathered in fearful anxiety, while within, the king had assembled his ministers, to fix on their final resolve.

The Chateau Royal of Copenhagen was not equal in splendour to the Palace of Fredericksburg, four leagues from the city ramparts; but age hallowed its gray walls, and the Danes beheld with veneration the ancient residence of their princes. It was in the council-chambers of this old palace that Frederic III. had convened the great officers of the kingdom; and never had they met at a more desperate time. The king himself was somewhat younger than his Swedish rival; tall and well made, (except, perhaps, that his figure about the shoulders was too thick and muscular for a classical model,) his regular and open features announced an affable and liberal disposition; and if he showed activity rather than energy, and a chivalrous bravery rather than the resolute daring of the Swede, yet, in justice and caution, and a patriarchal care of his subjects, he was far superior. Around him sat the great and wise men who then swayed the councils of Denmark—Gersdorff the grand-master, Rëetz, the chancellor, Otto Kraëg Lord of Volbiërg, Christian Skeel, Eric Rosenkranz, and other senators. Bishop Swann, the head of the clergy, and Jean Nausen, president of Copenhagen, had also been summoned to give advice on this pressing emergency.

"General," said the king, to the commandant of the city, "let the council hear your report."

"Sire," replied that officer, "I regret to say that the ramparts on the west are in a ruinous condition; there being no stone revêtement, the earth has crumbled into the fosse, and, from the severity of the frost, repairs would be a work of time and difficulty. Most of the guns have been hastily mounted from the ships and arsenals; the supply of ammunition is deficient; the garrison consists of only six companies of foot and one regiment of cavalry, in addition to the armed burghers; the stock of provisions is scanty, and many of the springs within the walls have begun to fail. It is doubtful, therefore, whether the city could resist a sudden assault, and certain that a siege of two months would compel us to surrender from famine alone."

At this ominous report, the king looked round with a steady eye: all were grave and silent.

At length, Count Hannibal Schested rose. He was a man of extraordinary powers. When only twenty-seven, he had been sent to negotiate with the wise Oxenstiern of Sweden and Olivarez of Spain. When viceroy of Norway, he conducted a war with the Swedes so successfully, that tradition still preserves among the Norse peasantry the memory of

"Hannibal's war." And though, like his great rival, Uhlfeldt, he too fell under the ban of the senate, and lost much of his rank and wealth, yet he prudently bent beneath the storm, and still preserved his fidelity to Denmark. His talents, during this eclipse, had been engaged by Charles II., during the English Commonwealth, to carry on intrigues with the court of Spain; but now that his own country was in danger, he was the first to advise for her safety. Though somewhat below the common height, his bright piercing eyes, his noble manner, and the subtle smoothness of his winning eloquence, arrested the attention of those who most doubted the speaker's sincerity. "It is but too plain," he began, "that Copenhagen is indefensible, nor is it possible for us to meet the enemy in the field. Many months must elapse before aid can be sent by Holland or the Lord Protector," (here Sir Philip Meadowe nodded his assent,) "so that if the Swedes once set foot in Zealand, there is not a hope of successful resistance, either by our own efforts or by the aid of our allies. Can we suppose the passage of the Great Belt impossible after what the enemy have already done? or should we stake everything dear to us on the possible chance of a thaw! Painful as it must be to every true Dane, I cannot hesitate to advise your Majesty before Charles is at our very gates, to open negotiations for peace; for peace on any terms, however hard, which will secure us an existence as a nation."

He had scarcely resumed his seat, when Otto Kraæg, Lord of Volbiorg, with great vehemence, denounced all ideas of submission; if the capitol could not be saved, yet the king and the nobles might hold out in their castles and strongholds until the Dutch or English auxiliaries arrived; besides, the enemy had not yet landed in Zealand—the ice must break up—perhaps engulf the invaders—supplies would soon fail in a protracted war—there were a hundred chances in their favour—and while there was but one, he would never consent to a treaty which could only be obtained at an enormous sacrifice.

Frederick's eye brightened as the speaker went on, but the grave senators shook their heads at the Lord of Volbiorg's rash counsel, and Gersdorff, the grand master, pointed out, in few words, its utter hopelessness. "As I was one of those," he continued, "who countenanced this unhappy war, I shall not shrink from my share of responsibility. It is in vain to shut our eyes to the desperate situation of affairs, should the Swedes effect a passage over the ice. That they will attempt it, we have every reason to suppose; and that success is not impossible, at all events, may be inferred from the fact that a courier from Sir Philip Meadowe passed and re-passed yesterday without difficulty. No time, therefore, should be lost in considering what sacrifices Denmark can best afford in case the necessity should arise. At the same time, if your Majesty and the counsel resolve to await the course of events, and not to dismember the kingdom until reduced to the last extremity, I shall not oppose the decision. It may not be strictly prudent, but we must not calculate the risk too nicely, when it offers some prospect of securing the integrity and independence of Denmark."

The grand-master's opinion ultimately prevailed. After a long debate, the condition of a treaty were determined on, and the council broke up, still clinging to the forlorn hope that something might yet occur to avert the necessity of submission.

The rest of that day was passed in busy preparation. The king

reviewed the troops, harangued the burghers, and visited the outposts; everywhere he was received with acclamations—nothing was heard of the enemy, and some of the more sanguine spirits predicted that the weather was about to change. Excited by his own activity, Frederick returned to the palace, buoyant with hope. His queen, a princess of the house of Lunenburg, a beautiful, generous, high-spirited woman, fully shared in his brightening expectations; she even applauded the chivalrous resolution he expressed of challenging his rival to single combat, and “all went merry as a marriage bell,” when a horseman, “haggard with riding, fiery hot with haste,” galloped into the palace yard. The King of Sweden had passed the ice once more, and was in full march for Copenhagen.

In a few minutes Gersdorff arrived. “There is no time to lose,” he exclaimed, on finding that the intelligence was certain; “whom is it your Majesty’s pleasure to appoint as negotiators?”

The king named the grand master himself, Reëtz the chancellor, and the senator Christian Skeel. The blanks were hastily filled up, and the instructions signed “Frederick.” “Gersdorff,” said the unfortunate prince, “I rely upon you. Sacrifices are unavoidable, but Denmark——”

He was unable to proceed, and the great minister, scarcely less affected, grasped his sovereign’s hand, and silently quitted the apartment.

The queen stood looking on without a word. She was evidently struggling to retain her self-command, and it was painful to see the hot flush that reddened her very temples from the effort; but the moment Frederick took her hand, she gave way at once, and throwing herself into his arms, burst into a flood of passionate tears.

[TO BE CONTINUED.]

THE RUBY-THROATED HUMMING BIRD.

BY MR. AUDUBON.

WHERE is the person on seeing this lovely little creature moving on humming winglets through the air, suspended as if by magic, in it, flitting from one flower to another, with motions as graceful as they are light and airy, pursuing its course over our extensive continent, and yielding new delights wherever it is seen; where is the person, I ask of you, kind reader, who, on observing this glittering fragment of the rainbow, would not pause, admire, and instantly turn his mind with reverence toward the Almighty Creator, the wonders of whose hand we at every step discover, and of whose sublime conceptions we every where observe the manifestation in his admirable system of creation? There breathes not such a person; so kindly have we all been blessed with that intuitive and noble feeling—admiration!

No sooner has the returning sun again introduced the vernal season, and caused millions of plants to expand their leaves and blossoms to his genial beams, than the little Humming Bird is seen advancing on fairy wings, carefully visiting every opening flower-cup, and, like a curious flo-

rist, removing from each the injurious insects that otherwise would ere long cause their beauteous petals to droop and decay. Poised in the air, it is observed peeping cautiously, and with sparkling eye, into their innermost recesses, whilst the ethereal motion of its pinions, so rapid and so light, appear to fan and cool the flower, without injuring its fragile texture, and produce a delightful murmuring sound, well adapted for lulling the insects to repose. Then is the moment for the Humming Bird to secure them. Its long delicate bill enters the cup of the flower, and the protruded double-tubed tongue, delicately sensible, and imbued with a glutinous saliva, touches each insect in succession, and draws it from its lurking place, to be instantly swallowed. All this is done in a moment, and the bird, as it leaves the flower, sips so small a portion of its liquid honey, that the theft, we may suppose, is looked upon with a grateful feeling by the flower, which is thus kindly relieved from the attacks of her destroyers.

The prairies, the fields, the orchards and gardens, nay, the deepest shades of the forests, are all visited in their turn, and every-where the little birds meet with pleasure and with food. Its gorgeous throat in beauty and brilliancy baffles all competition. Now it glows with a fiery hue, and again it is changed to the deepest velvet black. The upper parts of its delicate body are of resplendent changing green; and it throws itself through the air with a swiftness and vivacity hardly conceivable. It moves from one flower to another like a gleam of light, upwards, downwards, to the right, and to the left. In this manner, it searches the extreme northern portions of our country, following with great precaution the advances of the season, and retreats with equal care at the approach of autumn.

I wish it were in my power at this moment to impart to you, kind reader, the pleasure which I have felt whilst watching the movements, and viewing the manifestation of feelings displayed by a single pair of these most favourite little creatures, when engaged in the demonstration of their love to each other:—how the male swells his plumage and throat, and, dancing on the wing, whirls around the delicate female; how quickly he dives towards a flower, and returns with a loaded bill, which he offers to her to whom alone he feels desirous of becoming united; how full of ecstasy he seems to be when his caresses are kindly received; how his little wings fan her, as they fan the flowers, and he transfers to her bill the insect and the honey which he has procured with a view to please her; how these attentions are received with apparent satisfaction; how, soon after, the blissful compact is sealed; how, then, the courage and care of the male is redoubled; how he even dares to give chase to the Tyrant Fly-catcher, hurries the blue-Bird and the Martin to their boxes; and how, on sounding pinions, he joyously returns to the side of his lovely mate. Reader, all these proofs of the sincerity, fidelity, and courage, with which the male assures his mate of the care he will take of her while sitting on her nest, may be seen, and have been seen, but cannot be portrayed or described.

Could you, kind reader, cast a momentary glance on the nest of the Humming Bird, and see, as I have seen, the newly-hatched pair of young, little larger than humble-bees, naked, blind, and so feeble as scarcely to be able to raise their little bill to receive food from the parents; and could see those parents, full of anxiety and fear, passing and repassing within a few inches of your face, alighting on a twig not more

than a yard from your body, waiting the result of your unwelcome visit in a state of the utmost despair,—you could not fail to be impressed with the deepest pangs which parental affection feels on the unexpected death of a cherished child. Then how pleasing is it, on your leaving the spot to see the return of hope to the parents, when, after examining the nest they find their nursling untouched! You might think strange how pleasing it is to a mother of another kind, to hear the physician, who has attended her sick child, assure her that the crisis is over, and that her babe is saved. These are the scenes best fitted to enable us to partake of sorrow and joy, and to determine every one who views them to make it his study to contribute to the happiness of others, and to refrain from wantonly or maliciously giving them pain.

LIKE A SEA-BIRD O'ER THE OCEAN.

BY MISS PARDOE.

LIKE a sea-bird o'er the ocean,
Proudly does our vessel glide;
While her keel, with steady motion,
Parts the smooth and silvery tide.
On her sails the Moon is sleeping,
As her canvass woos the breeze;
Gallantly her course she's keeping,
O'er the wide and pathless seas.

On, and on, in beauty riding,
Swift she answers to the helm,
O'er the waves in safety gliding,
Which so soon may overwhelm.
In the breeze her pennant streaming—
Mirth and music on her deck—
Sad the heart which would be dreaming,
In this hour—of storm and wreck.

Thus doth Youth, Joy's anchor weighing,
Gaily put his bark to sea;
Gentle gales around it playing,
Canvass spread, and helm a-lee.
But manhood comes—Life's darker hour
Brings care and sorrow on its wave;
And 'mid his dreams of pride and pow'r,
MAN wakes to tempest, and a grave!

[United Service Journal.]

AGRICULTURAL ITEMS.

New Description of Cotton.—The New-Orleans Bulletin of the 16th ult. states that a new species of cotton has been discovered by Mr. Hornsby, of Louisiana, he says the bush grows from eight to ten feet high, branching out in proportion, and producing from two to three thousand pounds to the acre. This cotton is of long staple and very fine texture.—Mr. Hornsby thinks it as fine as ordinary silk. He says one seed was found two years since in a chest of tea imported from China; he planted it, and saved the seed which was its production, planted them, and now offers a few for sale. If this cotton proves as good as represented, we can then count upon a new era in the cultivation of the great staple.

Lime.—A Pennsylvania paper states that a Mr Cadwell, of Valley township, near Danville, raised four hundred bushels of wheat from a field of land, the past season. Five years ago the product of the same field was but thirty bushels. In the meantime, Mr. C. has spread fifteen hundred bushels of lime on said land. Lime is not every where to be had with the same ease, but, on the other hand, it is not every where wanted. What is wanted, is science enough, on the farmer's part, to know when and where he has occasion for it, and to what extent. The Geological Reports are throwing great light on these matters, and they are disclosing, at the same time, numerous new locations of valuable lime.

Extraordinary Plums.—We were shown yesterday, says the Philadelphia Ledger, a couple of articles which, at the first sight, we took to be apples. On a nearer examination they proved to be plums, the dimensions, by actual measurement, were seven and seven and half inches in circumference. The larger plum weighed three and a half ounces and forty-two grains.

Cabbage-worms cannot stand the smell of Pennyroyal. The writer of this has a square of very fine cabbages in his garden, and shortly after the wet spell of weather the last month commenced, the worms began to play havoc amongst them. Pennyroyal was gathered and scattered plentifully over the cabbage heads, and the sword of destruction ceased. I do not know whether this is a new remedy or not; it is a very simple and effectual one—at least, it has proved effectual with me, and I recommend others to try it.

Southern Cultivator.

Poultry.—When, says M. Bosce, it is wished to have eggs during the cold season, even in the dead of winter, it is necessary to make the fowls roost over an oven in a stable, in a shed where many cattle are kept, or to erect a stove in the fowl-house on purpose. By such methods, the farmers of Auge have chickens fit for the table in the month of

April—a period when they are only beginning to be hatched in the farms around Paris, although further to the south. It would be desirable that stoves in fowl houses were more commonly known near great towns, where luxury grudges no expense for the convenience of having fresh eggs."

We see it stated in a foreign periodical, that Signor Bertelli, a rich landed proprietor in Piedmont, has discovered a method by which he can make silk-worms spin red or blue cocoons at pleasure. So that the silk thus obtained is dyed naturally with one or the other of these colors, not only of surpassing beauty but indestructible. Signor Bertelli keeps his discovery a secret; but it is supposed to consist in some particular preparation of the mulberry leaves on which he feeds his worms.

Pear Trees Propagated from Roots.—It is stated upon good authority, in the New-England Farmer, that choice varieties of pear trees may be produced and the fruit preserved by means of roots. Small roots are selected, which have terminal fibres, and some kind of composition is usually put on the large ends of the roots to protect the wounds; afterwards they are placed obliquely in the earth, and fine trees with the fruit of the parent stock are the consequence, without the trouble or expense of grafting.

Boiling Potatoes.—An Irish Journal gives the following directions for cooking potatoes. Put them in a pot or kettle without a lid, with water just sufficient to cover them. After the water is come nearly to boil, pour it off, replace it with cold water, into which throw a good portion of salt. The cold water sends the heat from the surface to the heart, and makes the potatoes mealy. After they are boiled and the water is poured off, let them stand on the fire ten or fifteen minutes to dry.

A gentleman in Dubuque, Iowa Territory, raised a tomato the past season, that measured eighteen inches in girth, and weighed a pound and three quarters.

The Bassano Beet.—This Beet is more decidedly turnip-shaped than any that we have cultivated; and we have some that measure seven inches across the top. It is quite a favorite in our family; and some others who have tried it have pronounced it very superior. It was sent to us from the Rochester Seed Store; was imported from Scotland, and has grown as freely as any that we have ever planted. On account of its excellence, we save for seed all that we have now left. T.

The Farmer's Cabinet attests to the efficacy of lime as a certain destroyer of sorrel, having tried it for that object.

MISCELLANEOUS ITEMS.

An Affecting Incident.—The following interesting and affecting little story has been communicated in a letter from Mahon. The writer has heard it from the lips of the officers of the *Swallow* :

In the gallant and sanguinary action which that ship maintained against so superior a force, close in with *Fregus*, there was a seaman named Phelan, who had a wife on board. She was stationed (as is usual, when women were on in the time,) to assist the surgeon in the care of the wounded. From the close manner in which the *Swallow* engaged the enemy, yard arm and yard arm, the wounded, as may be expected, were brought below very fast; among the rest was a messmate of her husband's (consequently her own,) who had received a musket ball through the side. Her exertions were made to console the poor fellow who was in great agony, and nearly breathing his last, when by some chance she heard her husband was wounded on the deck. Her anxiety and already overpowered feelings could not one moment be restrained; she rushed instantly on deck, and received the wounded tar in her arms; he faintly raised his head to kiss her. She burst into a flood of tears, and told him to take courage; all would yet be well; but scarcely pronounced the last syllable, when an ill-directed shot took off her head. The poor tar, who was closely wrapped in her arms, opened his eyes once more, and then shut them forever.

In London a little girl, who had been for some time under water, was restored to life by electricity, after all other remedies failed. The shocks were passed gently through the breast, and along the spine, while the power was gradually increased. In ten minutes she gave signs of life, and in three quarters of an hour was in a fair way of recovery.

Almost all the convicts in the Ohio State Prison, and many in the prisons at Auburn and Sing Sing, are hired out to one individual who pays thirty-five cents per day for each man; he was formerly a manufacturer of hames; worth but a few hundred dollars—by employing the convicts in this and other work, he has amassed several hundred thousand dollars.

Turkish Wives.—There is a general idea prevalent in this country, that the Turks have a plurality of wives, but such a custom has no existence in reality. It is true that the Koran allows the Sultan seven wives, and every other Mussalman four; but there are few instances in Turkey at the present day, of Turks having more than one wife; and I was assured by a Bey, that, with the exception of three or four of the wealthiest Pachas, there were not five Turks in Constantinople who had more than one wife. On one occasion I asked an old effendi how many wives he had. He replied, "One is all I can

afford." I said it would be almost as cheap to keep four in a house as one, and his answer was, "Probably four English wives might live peaceably in one house, but Turkish wives must have separate houses; and a man must have as many establishments as he has wives, for if they were to live in the same house they would scratch one another's eyes out." I was, however, acquainted with one effendi who, getting tired of his wife, sold her, and bought two black ones with the money he got for her.

Reid's Turkey and the Turks.

The Female's Eye.—A modern writer gives the following enumeration of the expression of a female eye:—"The glare, the stare, the sneer, the invitation, the defiance, the denial, the consent, the glance of love, the flash of rage, the sparkling of hope, the languishment of softness, the squint of suspicion, the fire of jealousy, and the lustre of pleasure."

Napoleon's Sword.—It is well known that the emperor's relatives have laid claim to the arms worn by him: but their claims do not seem to be generally admitted. In fact, no one has so good a right to Napoleon's sword as General Bertrand, by whom it has been presented to the nation. General Bertrand actually saved the sword, so to speak, instead of only receiving it from Napoleon. This far-famed weapon was laid upon the bed at Longwood, by the side of the dead hero. The English authorities were about to take possession of it, but Gen. Bertrand, by a pious fraud carried it off, leaving his own in place of it. On the blade of his sword is graven in golden letters, "Austerlitz, 2 December, 1805." The handle is plain, of massive gold; upon it are three antique medallions, with the heads of Cæsar, Hannibal, and Alexander.

Indian-Rubber vs. Law.—A correspondent of an English paper says, this most remarkable article, which only a few years ago was sent to England as ballast, now sells in a fine state as high as 10s. to 14s. per pound when spun into thread. One firm spins as much India-rubber thread every week as would reach from London to Canton, the country it is imported from. There are twelve patents for the article, and these patents have cost more to defend in law, than the amount paid for India-rubber since the article has been known to the world as of any value.

Courier.

A Large and Productive Grape Vine.—There is a Grape Vine at Castleton, Ireland, which is one hundred feet in length, and so luxuriantly productive as to make it necessary for the gardener to thin it by cutting off two thousand bunches, leaving three thousand five hundred bunches on the vine.

Eng. paper.